Baskar P.
09/810428

(FILE 'HCAPLUS' ENTERED AT 10:55:36 ON 08 JUL 2002)

- key terms

L1 4524 SEA FILE=HCAPLUS ABB=ON PLU=ON (ANTIBOD? OR MOAB OR MAB) AND ((S OR STAPHYLOCOCC?)(W)(AUREUS OR EPIDERM?) OR STAPHYLOCOCC?)
L2 73 SEA FILE=HCAPLUS ABB=ON PLU=ON L1 AND (CNA19 OR CNA OR CNP OR (COLLAGEN OR FIBRONECTIN)(W)(BIND? OR BP) OR FNBP# OR MSCRAMM OR MICROB? SURFAC?(1W)RECOGN? ADHES?)
L3 5 SEA FILE=HCAPLUS ABB=ON PLU=ON L2 AND (CROSSREACT? OR CROSS REACT?)

L1 4524 SEA FILE=HCAPLUS ABB=ON PLU=ON (ANTIBOD? OR MOAB OR MAB) AND ((S OR STAPHYLOCOCC?)(W)(AUREUS OR EPIDERM?) OR STAPHYLOCOCC?)
L2 73 SEA FILE=HCAPLUS ABB=ON PLU=ON L1 AND (CNA19 OR CNA OR CNP OR (COLLAGEN OR FIBRONECTIN)(W)(BIND? OR BP) OR FNBP# OR MSCRAMM OR MICROB? SURFAC?(1W)RECOGN? ADHES?)
L4 25 SEA FILE=HCAPLUS ABB=ON PLU=ON L2 AND (TREAT? OR THERAP? OR PREVENT?)
L5 16 SEA FILE=HCAPLUS ABB=ON PLU=ON L4 AND INFECT?

L6 19 L3 OR L5

L6 ANSWER 1 OF 19 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:713175 HCAPLUS
DOCUMENT NUMBER: 135:271897
TITLE: **Cross-reactive** displacing **antibodies** from **collagen-binding** proteins and method of identification and use
INVENTOR(S): Hook, Magnus; Xu, Yi; Speziale, Pietro; Visai, Livia; Casolini, Fabrizia; Patti, Joseph; Patel, Pratiksha; Domanski, Paul
PATENT ASSIGNEE(S): Inhibitex, Inc., USA; Texas A + M University System; Universita' Degli Studi di Pavia
SOURCE: PCT Int. Appl., 107 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001070267	A1	20010927	WO 2001-US8554	20010319

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2000-189968P P 20000317

US 2000-199370P P 20000425
US 2000-225402P P 20000815

AB **Antibodies** to the **CNA** protein and to other regions from the **collagen binding** domain, including domain **CNA19**, are provided, and **antibodies** produced in this manner have been shown to be **cross reactive** to both **Staphylococcus aureus** and **Staphylococcus epidermidis** bacteria and which can thus be used in the **prevention** and **treatment** of **infections** caused by both of these types of bacteria. In addn., medical instruments can be **treated** using the **antibodies** of the invention in order to reduce or eliminate the possibility of their becoming **infected** or further spreading the **infection**. In particular, the proteins are advantageous because they are **cross-reactive** and may thus be administered to patients so as to reduce or **prevent** severe **infection** by **staphylococcal** bacteria of more than one species. **Antibodies** generated in this manner have also been shown to exhibit displacement activity and can thus be utilized advantageously in methods wherein these **antibodies** will be administered to patients having pre-existing **staphylococcal infections** because of the ability to displace bacterial proteins from binding sites on the extracellular matrix. Finally, a method of identifying, isolating and utilizing displacing **antibodies** is also provided.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 19 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:814496 HCAPLUS
DOCUMENT NUMBER: 133:366397
TITLE: **Collagen-binding** proteins from enterococcal bacteria for **prevention** of **infection**
INVENTOR(S): Rich, Rebecca L.; Kriekemeyer, Bernd; Owens, Richard T.; Hook, Magnus; Murray, Barbara E.; Nallapareddy, Sreedhar R.; Qin, Xiang; Weinstock, George M.; Singh, Kvindra V.; Duh, Ruay-wang
PATENT ASSIGNEE(S): The Texas A & M University System, USA; University of Texas Medical School
SOURCE: PCT Int. Appl., 148 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000068242	A1	20001116	WO 2000-US12590	20000510

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN,

YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
EP 1177203 A1 20020206 EP 2000-935885 20000510
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
PRIORITY APPLN. INFO.: US 1999-133334P P 19990510
WO 2000-US12590 W 20000510

AB A **collagen-binding MSCRAMM** (**microbial surface** components **recognizing adhesive** matrix mols.) entitled Ace from enterococcal bacteria is provided which is homologous to the ligand-binding region of **Cna**, the **collagen-binding MSCRAMM** from **Staphylococcus aureus**, and which can be utilized in a similar manner as other **collagen -binding MSCRAMMs** to inhibit adhesion of enterococcal bacteria to extracellular matrix proteins. The N-terminal region of Ace contains a region (residues 174-319), or A domain, which appears to be equiv. to the minimal ligand-binding region of the **collagen-binding** protein **Cna** (**Cna** 151-318), and contains several 47-residue tandem repeat units, called B domain repeat units, between the **collagen-binding** site and cell wall-assocd. regions. The Ace protein of the invention can thus be utilized in methods of **preventing** and/or **treating** enterococcal **infection**, and in addn., **antibodies** raised against Ace, or its A domain, can be used to effectively inhibit the adhesion of enterococcal cells to a collagen substrate. The Ace protein of the present invention is thus a functional **collagen-binding MSCRAMM** and can be utilized to **treat** or **prevent** invention in the same manner as other isolated **MSCRAMMs** have been utilized, namely in methods of **treating** or **preventing infections** and diseases caused by enterococcal bacteria.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 19 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:534966 HCAPLUS
DOCUMENT NUMBER: 133:140213
TITLE: Non-invasive vaccination through the skin
INVENTOR(S): Cevc, Gregor; Chopra, Amla
PATENT ASSIGNEE(S): Idea A.-G., Germany
SOURCE: PCT Int. Appl., 79 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000044349	A1	20000803	WO 2000-EP597	20000126

W: AU, BR, CA, CN, HU, JP, KR, MX, US
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

EP 1031346	A1	20000830	EP 1999-101479	19990127
EP 1031346	B1	20020502		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
AT 216875	E	20020515	AT 1999-101479	19990127
EP 1146858	A1	20011024	EP 2000-906231	20000126
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
BR 2000007749	A	20011113	BR 2000-7749	20000126

PRIORITY APPLN. INFO.: EP 1999-101479 A 19990127
WO 2000-EP597 W 20000126

AB The present invention relates to novel vaccines for the non-invasive, transcutaneous administration of antigens assocd. with ultradeformable carriers, for the purpose of prophylactic or **therapeutic** vaccination. The vaccines comprise (a) a transdermal carrier which is a penetrant, (b) a compd. which specifically releases or specifically induces cytokine or anti-cytokine activity or exerts such an activity itself, and (c) an antigen, an allergen, a mixt. of antigens an/or mixt. of allergens. The invention further relates to methods for the vaccination of mammals for obtaining a protective or **therapeutic** immune response.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 19 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:161170 HCAPLUS
DOCUMENT NUMBER: 132:199034
TITLE: **Staphylococcal** immunotherapeutics via donor selection and donor stimulation
INVENTOR(S): Patti, Joseph M.; Foster, Timothy J.; Hook, Magnus
PATENT ASSIGNEE(S): Inhibitex, Inc., USA; The Texas A & M University System; The Provost Fellows and Scholars of the College of the Holy and Undivided Trinity of Queen Elizabeth Near Dublin
SOURCE: PCT Int. Appl., 84 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000012132	A1	20000309	WO 1999-US19729	19990831
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9956966	A1	20000321	AU 1999-56966	19990831
EP 1121149	A1	20010808	EP 1999-943981	19990831

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

NO 2001000981 A 20010426 NO 2001-981 20010227

PRIORITY APPLN. INFO.: US 1998-98449P P 19980831
WO 1999-US19729 W 19990831

AB A method and compn. for the passive immunization of patients **infected** with or susceptible to **infection** from **Staphylococcus** bacteria such as **S. aureus** and **S. epidermidis infection** are provided that include the selection or prepn. of a donor plasma pool with high **antibody** titers to carefully selected **Staphylococcus** adhesins or **MSCRAMMs**, or fragments or components thereof, or sequences with substantial homol. thereto. The donor plasma pool can be prepd. by combining individual blood or blood component samples which have higher than normal titers of **antibodies** to one or more of the selected adhesins or other proteins that bind to extracellular matrix proteins, or by administering carefully selected proteins or peptides to a host to induce the expression of desired **antibodies**, and subsequently recovering the enhanced high titer serum or plasma pool from the **treated** host. In either case, the donor plasma pool is preferably purified and concd. prior to i.v. introduction into the patient, and the present invention is advantageous in that a patient can be immunized against a wide variety of potentially dangerous **staphylococcal infections**. Kits for identifying potential donors with high titers of the selected adhesins are also provided. The present invention thus provides methods and compns. which can be highly effective against **infections** assocd. with **Staphylococcus** bacteria.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 5 OF 19 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:161169 HCAPLUS

DOCUMENT NUMBER: 132:212703

TITLE: Multicomponent vaccines for **prevention** of **staphylococcal infections**

INVENTOR(S): Patti, Joseph M.; Foster, Timothy J.; Hook, Magnus

PATENT ASSIGNEE(S): Inhibitex, Inc., USA; The Texas A & M University System; The Provost Fellows and Scholars of the College of the Holy and Undivided Trinity of Queen Elizabeth Near Dublin

SOURCE: PCT Int. Appl., 115 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000012131	A1	20000309	WO 1999-US19727	19990831

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD,

SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9955889	A1	20000321	AU 1999-55889		19990831
EP 1109577	A1	20010627	EP 1999-942533		19990831
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI					
BR 9913340	A	20011106	BR 1999-13340		19990831
PRIORITY APPLN. INFO.:			US 1998-98439P	P	19980831
			WO 1999-US19727	W	19990831

AB Multicomponent vaccines are provided which aid in the **prevention** and **treatment** of **staphylococcal infections** and which include certain selected combinations of bacterial binding proteins or fragments thereof, or **antibodies** to those proteins or fragments. By careful selection of the proteins, fragments, or **antibodies**, a vaccine is provided that imparts protection against a broad spectrum of **Staphylococcus** bacterial strains and against proteins that are expressed at different stages of the logarithmic growth curve. In one embodiment of the invention, a compn. is provided that includes at least a **collagen-binding** protein or peptide (or an appropriate site directed mutated sequence thereof) such as **CNA**, or a protein or fragment with sufficiently high homol. thereto, in combination with a fibrinogen binding protein, preferably Clumping factor A ("ClfA") or Clumping factor B ("ClfB"), or a useful fragment thereof or a protein or fragment with sufficiently high homol. thereto. The vaccines and products of the present invention are advantageous in that they respond to the urgent need of the medical community for a substitute for small mol. antibiotics, which are rapidly losing effectiveness and provide effective combinations of the large no. of known bacterial surface adhesins which can impart effective protection against a broad spectrum of bacterial **infections**.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 6 OF 19 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER:	1999:760379 HCAPLUS
DOCUMENT NUMBER:	132:164203
TITLE:	Extracellular-matrix-binding proteins as targets for the **prevention** of **Staphylococcus aureus infections**
AUTHOR(S):	Flock, J.-I.
CORPORATE SOURCE:	Department of Immunology, Microbiol., Pathol., and Infectious Dis., Karolinska Institutet, Huddinge University Hospital, Huddinge, S-141 86, Swed.
SOURCE:	Molecular Medicine Today (1999), 5(12), 532-537 CODEN: MMTOFK; ISSN: 1357-4310
PUBLISHER:	Elsevier Science Ltd.
DOCUMENT TYPE:	Journal; General Review
LANGUAGE:	English

AB A review is given with 39 refs. **Staphylococcal infections** cause a no. of serious diseases, ranging from

acute septicemia to chronic problems such as osteomyelitis and septic arthritis. Resistance to antibiotics is a growing problem and has re-ignited interest in vaccines and in passive immunization with **antibodies**. Natural **infections** and vaccines based on whole bacteria lead to poor **antibody** responses, but recent research using animal models of several **staphylococcal** diseases reveals that vaccines based on recombinant **staphylococcal** extracellular-matrix-binding proteins are much more protective. Passive immunization with **antibodies** against one of these proteins (**collagen -binding** protein) also shows promise in a mouse model of sepsis.

REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 7 OF 19 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:83274 HCAPLUS
DOCUMENT NUMBER: 130:264730
TITLE: Inhibition of **Staphylococcus aureus** adherence to collagen under dynamic conditions
AUTHOR(S): Mohamed, Nehal; Teeters, Mark A.; Patti, Joseph M.; Hook, Magnus; Ross, Julia M.
CORPORATE SOURCE: Department of Chemical and Biochemical Engineering, University of Maryland Baltimore County, Baltimore, MD, 21250, USA
SOURCE: Infection and Immunity (1999), 67(2), 589-594
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Staphylococcus aureus** is the most common etiol. agent of bacterial arthritis and acute osteomyelitis and has been shown to bind to type II collagen under static and dynamic conditions. We have previously reported the effect of shear on the adhesion of **S. aureus** Phillips to collagen and found that this process is shear dependent (Z. Li, M. Hook, J. M. Patti, and J. M. Ross, Ann. Biomed. Eng. 24[Suppl. 1]:S-55). In this study, we used recombinant collagen adhesin fragments as well as polyclonal **antibodies** generated against adhesin fragments in attempts to inhibit bacterial adhesion. A parallel-plate flow chamber was used in a dynamic adhesion assay, and quantification of adhesion was accomplished by phase contrast video microscopy coupled with digital image processing. We report that both recombinant fragments studied, M19 and M55, and both polyclonal **antibodies** studied, .alpha.-M17 and .alpha.-M55, inhibit adhesion to varying degrees and that these processes are shear dependent. The M55 peptide and .alpha.-M55 cause much higher levels of inhibition than M19 and .alpha.-M17, resp., at all wall shear rates studied. Our results demonstrate the importance of using a dynamic system in the assessment of inhibitory strategies and suggest the possible use of M55 and .alpha.-M55 in clin. applications to **prevent infections** caused by **S. aureus** adhesion to collagen.

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 8 OF 19 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:509122 HCAPLUS
DOCUMENT NUMBER: 129:148069
TITLE: **Fibronectin binding** protein compositions, **antibodies** thereto, and methods of use
INVENTOR(S): Hook, Magnus; Patti, Joseph M.; House-Pompeo, Karen L.; Speziale, Petro; Joh, Danny; McGavin, Martin J.
PATENT ASSIGNEE(S): The Texas A & M University System, USA
SOURCE: PCT Int. Appl., 201 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9831389	A2	19980723	WO 1998-US1222	19980121
WO 9831389	A3	19990121		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9866479	A1	19980807	AU 1998-66479	19980121
AU 744723	B2	20020228		
EP 971740	A2	20000119	EP 1998-908439	19980121
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002513398	T2	20020508	JP 1998-533382	19980121

PRIORITY APPLN. INFO.: US 1997-36139P P 19970121
WO 1998-US1222 W 19980121

AB Disclosed are **antibodies** that block the binding of fibronectin protein to fibronectin. Also disclosed are site specifically-mutated and truncated peptide epitopes derived from the fnbA and fnbB genes of **Staphylococcus aureus**, the fnbA and fnbB genes of Streptococcus dysgalactiae, and the sfb gene of Streptococcus pyogenes, and nucleic acid segments encoding these peptides and epitopes. The anti-(**fibronectin binding** site) **antibodies**, peptides and epitopes that give rise to **antibodies** that block the binding of **fibronectin binding** proteins to fibronectin, and DNA segments encoding these proteins and are of use in various screening, diagnostic and **therapeutic** applications including active and passive immunization and methods for the **prevention** of streptococcal and **staphylococcal** colonization in animals or humans. These DNA segments and the peptides derived therefrom are proposed to be of use directly in the prepn. of vaccines and also for use as carrier proteins in vaccine formulations.

L6 ANSWER 9 OF 19 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:400174 HCAPLUS
DOCUMENT NUMBER: 129:147803
TITLE: Vaccination with a recombinant fragment of collagen adhesin provides protection against **Staphylococcus aureus**-mediated septic death
AUTHOR(S): Nilsson, Ing-Marie; Patti, Joseph M.; Bremell, Tomas; Hook, Magnus; Tarkowski, Andrzej
CORPORATE SOURCE: Department of Rheumatology, University of Goteborg, Goteborg, S-41346, Swed.
SOURCE: Journal of Clinical Investigation (1998), 101(12), 2640-2649
CODEN: JCINAO; ISSN: 0021-9738
PUBLISHER: Rockefeller University Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB **Staphylococcus aureus** is a major cause of nosocomial and community-acquired **infections**. Morbidity and mortality due to **infections** such as sepsis, osteomyelitis, septic arthritis, and invasive endocarditis remain high despite the use of antibiotics. The emergence of antibiotic resistant super bugs mandates that alternative strategies for the **prevention** and **treatment** of **S. aureus infections** are developed. We investigated the ability of vaccination with a recombinant fragment of the **S. aureus** collagen adhesin to protect mice against sepsis-induced death. Actively immunized NMRI mice were i.v. inoculated with the **S. aureus** clin. isolate strain Phillips. 14 D after inoculation, mortality in the collagen adhesin-vaccinated group was only 13%, compared with 87% in the control antigen immunized group. To det. if the protective effect was **antibody** mediated, we passively immunized naive mice with collagen adhesin-specific **antibodies**. Similar to the active immunization strategy, passive transfer of collagen adhesin-specific **antibodies** protected mice against sepsis-induced death. In vitro expts. indicated that **S. aureus** opsonized with sera from collagen adhesin immunized mice promoted phagocytic uptake and enhanced intracellular killing compared with bacteria opsonized with sera from control animals. These results indicate that the collagen adhesin is a viable target in the development of immunotherapeutics against **S. aureus**.

L6 ANSWER 10 OF 19 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:265866 HCAPLUS
DOCUMENT NUMBER: 128:305399
TITLE: **Staphylococcus fibronectin-binding** protein A and its genomic DNA
INVENTOR(S): Hodgson, John Edward; Burnham, Martin K. R.
PATENT ASSIGNEE(S): Smithkline Beecham Corp., USA; Smithkline Beecham PLC
SOURCE: Eur. Pat. Appl., 18 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 837131	A2	19980422	EP 1997-308232	19971016
EP 837131	A3	20000112		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 6348584	B1	20020219	US 1997-947014	19971008
JP 10290693	A2	19981104	JP 1997-321878	19971017
PRIORITY APPLN. INFO.:			US 1996-28673P P	19961017
			US 1996-32765P P	19961211

AB Novel **fibronectin-binding** protein A polypeptides and DNA (RNA) encoding such novel **fibronectin-binding** protein A from **Staphylococcus aureus** WCUH 29, and a procedure for producing such polypeptides by recombinant techniques is disclosed. Also disclosed are methods for utilizing such novel **fibronectin-binding** protein A for the **treatment** of **infection**, particularly bacterial **infections**. Antagonists against such novel **fibronectin-binding** protein A and their use as a **therapeutic** to **treat infections**, particularly bacterial **infections** are also disclosed. Also disclosed are diagnostic assays for detecting diseases related to the presence of novel **fibronectin-binding** protein A nucleic acid sequences and the polypeptides in a host. Also disclosed are diagnostic assays for detecting polynucleotides encoding novel **fibronectin-binding** protein A family and for detecting the polypeptide in a host.

L6 ANSWER 11 OF 19 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:757033 HCAPLUS
DOCUMENT NUMBER: 128:47296
TITLE: **Collagen binding** protein compositions and methods of use
INVENTOR(S): Hook, Magnus; Patti, Joseph M.; House Pompeo, Karen; Sthanam, Narayana; Symersky, Jindrich
PATENT ASSIGNEE(S): Texas A & M University System, USA; Uab Research Foundation; Hook, Magnus; Patti, Joseph M.; House-Pompeo, Karen; Sthanam, Narayana; Symersky, Jindrich
SOURCE: PCT Int. Appl., 143 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9743314	A2	19971120	WO 1997-US8210	19970514
WO 9743314	A3	19971224		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR,				

GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

AU 9731260	A1	19971205	AU 1997-31260		19970514
EP 950068	A2	19991020	EP 1997-926514		19970514
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI					
US 6288214	B1	20010911	US 1997-856253		19970514
PRIORITY APPLN. INFO.:			US 1996-17678P	P	19960516
			WO 1997-US8210	W	19970514

AB Disclosed are the **cna** gene and **cna**-derived nucleic acid segments from **Staphylococcus aureus** , and DNA segments encoding **cna** from related bacteria. Also disclosed are **collagen binding** protein (CBP) compns. and methods of use. The CBP protein and antigenic epitopes derived therefrom are contemplated for use in the **treatment** of pathol. **infections**, and in particular, for use in the **prevention** of bacterial adhesion to collagen. DNA segments encoding these proteins and anti-CBP **antibodies** will also be of use in various screening, diagnostic and **therapeutic** applications including active and passive immunization and methods for the **prevention** of bacterial colonization in an animal such as a human. These DNA segments and the peptides derived therefrom are contemplated for use in the prepn. of vaccines and, also, for use as carrier proteins in vaccine formulations, and in the formulation of compns. for use in the **prevention** of **S. aureus infection**.

L6 ANSWER 12 OF 19 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER:	1997:374842 HCAPLUS
DOCUMENT NUMBER:	126:340946
TITLE:	**Staphylococcus aureus fibronectin-binding** protein B gene fragment sequence, recombinant vector, and bacterial **infection** diagnosis and **treatment**
INVENTOR(S):	Hodgson, John Edward; Burnham, Martin Karl Russell
PATENT ASSIGNEE(S):	Smithkline Beecham Plc, UK; Hodgson, John Edward; Burnham, Martin Karl Russell
SOURCE:	PCT Int. Appl., 38 pp. CODEN: PIXXD2
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	1
PATENT INFORMATION:	

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9714799	A1	19970424	WO 1996-GB2527	19961015
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 856056	A1	19980805	EP 1996-935004	19961015
R: BE, CH, DE, DK, FR, GB, IT, LI, NL				
US 5858709	A	19990112	US 1996-732791	19961015
JP 2000500326	T2	20000118	JP 1997-515603	19961015
US 6077677	A	20000620	US 1998-205049	19981204

PRIORITY APPLN. INFO.: GB 1995-21146 A 19951016
US 1996-732791 A3 19961015
WO 1996-GB2527 W 19961015

AB Novel **fibronectin binding** protein B and DNA (RNA) encoding such novel **fibronectin binding** protein B and a procedure for producing such polypeptides by recombinant techniques is disclosed. Also disclosed are methods for utilizing such novel **fibronectin binding** protein B for the **treatment** of **infection**, particularly bacterial **infections**. Antagonists against such novel **fibronectin binding** protein B and their use as a **therapeutic** to **treat infections**, particularly bacterial **infections** are also disclosed. Also disclosed are diagnostic assays for detecting diseases related to the presence of novel **fibronectin binding** protein B nucleic acid sequences and the polypeptides in a host. Also disclosed are diagnostic assays for detecting polynucleotides encoding novel **fibronectin binding** protein B family and for detecting the polypeptide in a host.

L6 ANSWER 13 OF 19 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:302446 HCAPLUS
DOCUMENT NUMBER: 124:352372
TITLE: Peptides from the **Staphylococcus aureus fibronectin-binding** protein Fbp as inhibitors of bacterial adhesion
INVENTOR(S): Critchley, Ian Alfred; Dodd, Ian; Barnett, Paul; McBay, Diane Louise
PATENT ASSIGNEE(S): Smithkline Beecham Plc, UK
SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9604381	A1	19960215	WO 1995-EP3040	19950728

W: JP, US
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

PRIORITY APPLN. INFO.: GB 1994-15900 19940805

AB Fragments of the **Staphylococcus aureus fibronectin-binding** protein Fbp derived from the D3 and D4 domains are prepd. for use in inhibiting the adhesion of Gram pos. bacteria to extracellular matrix proteins on in-dwelling devices, in wounds and also to inhibit the binding of oral pathogens to extracellular matrix proteins on surfaces in the oral cavity, in particular tooth surfaces. These fragments may be manufd. by expression of the cloned gene in a suitable host or by proteolysis of the mature protein with plasmin or Escherichia coli proteinase. Monoclonal **antibodies** to these fragments may also be used to inhibit bacterial adhesion. The ability of these peptides to inhibit the binding of **S. aureus** to fibronectin-coated glass is demonstrated.

L6 ANSWER 14 OF 19 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:749586 HCAPLUS
DOCUMENT NUMBER: 124:46897
TITLE: Characterization of a novel **fibronectin -binding** surface protein in group A streptococci
AUTHOR(S): Kreikemeyer, B.; Talay, S. R.; Chhatwal, G. S.
CORPORATE SOURCE: Dep. of Microbiology, Technical Univ./GBF-National Research Centre for Biotechnology, Braunschweig, Germany
SOURCE: Mol. Microbiol. (1995), 17(1), 137-45
CODEN: MOMIEE; ISSN: 0950-382X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Streptococcus pyogenes interacts with host fibronectin via distinct surface components. One of these components is the Sfbl protein (streptococcal **fibronectin-binding** protein, now specified as class I), an adhesin that represents a protein family with characteristic features. Here we present the complete structure of a novel **fibronectin-binding** protein of S. pyogenes, designated SfbII, which is distinct from the previously described Sfbl proteins. The SfbII gene originated from a .lambda. EMBL3 library of chromosomal DNA from group A streptococcal strain A75 and coded for a 113 kDa protein exhibiting features of membrane-anchored surface proteins of Gram-pos. cocci. The expression of biol. active fusion proteins allowed the detn. of the location of the **fibronectin-binding** domain within the C-terminal part of the protein. It consisted of two and a half repeats which share common motifs with **fibronectin-binding** repeats of other streptococcal and **staphylococcal** proteins. Purified recombinant fusion protein contg. this domain competitively inhibited the binding of fibronectin to the parental S. pyogenes strain. Furthermore, polyclonal **antibodies** against the binding domain specifically blocked the sfbII receptor site on the streptococcal surface. No **cross-reactivity** could be detected between anti-SfbII **antibodies** and the sfbI gene product, and vice versa, indicating that the two periods do not share common immunogenic epitopes. Southern hybridization expts. performed with specific sfbII gene probes revealed the presence of the sfbII gene in more than 55% of 93 streptococcal isolates tested. The majority of the strains also harbored the sfbI gene, and 86% carried at least one of the two sfb genes.

L6 ANSWER 15 OF 19 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:459795 HCAPLUS
DOCUMENT NUMBER: 122:209604
TITLE: The effect of growth temperature on **Staphylococcus aureus** binding to type I collagen
AUTHOR(S): Clark, Bret A.; Rissing, J. Peter; Buxton, Thomas B.; Best, Norma H.; Best, Gary K.
CORPORATE SOURCE: Department Immunology and Microbiology, Medical College Georgia, Augusta, GA, 30912, USA
SOURCE: Microb. Pathog. (1994), 17(4), 239-51
CODEN: MIPAEV; ISSN: 0882-4010
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Many strains of **Staphylococcus aureus** produce a **collagen-binding** surface protein that could enable these strains to colonize tissues such as bone. Previous studies indicated that the expression of the collagen receptor varies with growth conditions. The authors report here that the growth temp. influences the ability of some **S. aureus** strains to produce this receptor. **S. aureus** isolates from human osteomyelitic bone were grown at 37.degree.C and 42.degree.C and tested for agglutination of collagen-coated latex beads. Binding by 42.degree.C grown cells was significantly reduced in five of the seven isolates studied, including a complete loss of **collagen binding** in three of these isolates. In an 125I-**collagen-binding** assay, the binding ability of one of these isolates, strain #16, was 20-fold lower if grown at 42.degree.C. Reduced **collagen binding** by this isolate could be demonstrated after only two cell divisions at 42.degree.C, and the cells regained the ability to bind collagen when shifted back to 37.degree.C. SDS-PAGE confirmed the presence of proteins at 117 kDa in strain #16 and 135 kDa in SMH which were absent following growth at 42.degree.C. Chicken IgG, specific for the 117 kDa protein, was found to react in immunoblot assays with these proteins as well as a protein of 135 kDa extd. from **S. aureus** Cowan 1. The **antibody** did not react with proteins extd. from non-binding strains. Strains #15 and #21, **collagen-binders** at both 37.degree.C and 42.degree.C, produced immunoreactive proteins at 110 and 135 kDa, resp., in lysates from cells grown at both temps. **Antibody** against a recombinant form of a previously characterized collagen receptor was used to confirm **cross-reactivity** with these novel collagen receptors. These data suggest that the ability to produce the collagen receptor is temp. sensitive in some **S. aureus** strains assocd. with osteomyelitis. It is proposed that a better understanding of the environmental effects on collagen receptor prodn. could enhance our understanding of **staphylococcal** infections in bone and joints.

L6 ANSWER 16 OF 19 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:390874 HCAPLUS
DOCUMENT NUMBER: 122:158152
TITLE: Role of **antibodies** against fibronectin-, **collagen-binding** proteins and alpha-toxin in experimental **Staphylococcus aureus** peritonitis and septicemia in neutropenic mice
AUTHOR(S): Rozalska, B.; Wadstroem, T.
CORPORATE SOURCE: Department Medical Microbiology, University Lund, Lund, S-223 62, Swed.
SOURCE: Zentralbl. Bakteriol. (1994), 281(4), 495-501
CODEN: ZEBAE8; ISSN: 0934-8840
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The authors have investigated the protective role of hyperimmune rabbit IgG against two surface structures of **Staphylococcus aureus**, i.e. fibronectin-, and **collagen-binding** proteins as well as alpha-toxin in exptl. peritonitis and septicemia in neutropenic mice pretreated with cyclophosphamide. This **treatment** markedly decreased clearance of bacteria from mouse organs. With combined

immunotherapy given passively, bacteria were eradicated more efficiently for all animals sampled, comparative to controls.

L6 ANSWER 17 OF 19 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1994:432737 HCAPLUS
DOCUMENT NUMBER: 121:32737
TITLE: **Staphylococcus aureus** **fibronectin-binding** proteins (**FnBPs**). Identification of antigenic epitopes using polyclonal **antibodies**
AUTHOR(S): Rozalska, B.; Sakata, N.; Wadstroem, T.
CORPORATE SOURCE: Dep. Med. Microbiol., Univ. Lund, Lund, S-223 62, Swed.
SOURCE: APMIS (1994), 102(2), 112-18
CODEN: APMSEL; ISSN: 0903-4641
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Polyclonal **antibodies** against recombinant **fibronectin-binding** proteins (gal-**FnBP** A and ZZ-**FnBP** B) of **Staphylococcus aureus** were analyzed by both solid-phase and soln.-phase methods. These **antibodies** were found to bind homologous antigen and to **cross-react** with heterologous antigen. It was also found that **antibodies** recognize native **FnBP** on the cell surface. It has been shown, by the inhibition assay, that the majority of **antibodies** recognize a **fibronectin-binding** D1-D2 sequence of **FnBP** A. Anti-**FnBP** A Fab fails to bind the D3 sequence, though this peptide used in a soln. inhibits binding of fibronectin to immobilized **FnBP** A, similarly to D1 and D2 peptides. Since the anti-**FnBP** A **antibodies** are able to block **fibronectin binding** to **staphylococci** by about 50%, it is reasonable to assume that the bacterial receptor has addnl. binding sites outside the D domain.

L6 ANSWER 18 OF 19 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1991:533984 HCAPLUS
DOCUMENT NUMBER: 115:133984
TITLE: **Staphylococcal** fibronectin receptor polysaccharide, monoclonal **antibodies** thereto and methods of use
INVENTOR(S): Proctor, Richard A.
PATENT ASSIGNEE(S): Wisconsin Alumni Research Foundation, USA
SOURCE: U.S., 4 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5034515	A	19910723	US 1987-99756	19870922

AB A purified fibronectin receptor polysaccharide derived from **Staphylococcus aureus** is useful as an antigen for diagnostic tests and the prepn. of monoclonal **antibodies**. The fibronectin receptor polysaccharide is prepd. by gently removing

expressed material, including the polysaccharide, from cell surfaces of **S. aureus** without killing the cells, followed by purifn. Monoclonal **antibodies** directed against the polysaccharide can be used in methods of **preventing** or **treating S. aureus infections** by administering the monoclonal **antibodies** to animals (no data). The polysaccharide is not a lipoprotein, contains aminohexoses, does not contain uronic acids, has mol. wt. .apprx.60,000, competes with intact organisms for **fibronectin binding**, and **cross-reacts** with type 8 capsular material of **S. aureus**. An indirect ELISA for detection of **antibodies** to the fibronectin receptor is described.

L6 ANSWER 19 OF 19 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1987:572373 HCAPLUS
DOCUMENT NUMBER: 107:172373
TITLE: Interaction of soluble fibronectin with group B streptococci
AUTHOR(S): Butler, Karina M.; Baker, Carol J.; Edwards, Morven S.
CORPORATE SOURCE: Dep. Pediatr., Baylor Coll. Med., Houston, TX, 77030, USA
SOURCE: Infect. Immun. (1987), 55(10), 2404-8
CODEN: INFIBR; ISSN: 0019-9567
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Fibronectin binds** to a variety of bacterial species, and it was hypothesized that differential **fibronectin binding** might influence the invasive potential of group B streptococci (GBS). Human plasma fibronectin purified by a std. 2-step chromatog. procedure was radiolabeled with 3H. Fifty GBS strain (invasive, colonizing, or bovine) representing serotypes Ia (10 strains), Ib (6 strains), Ia/c (6 strains), II (10 strains), III (11 strains), IV (1 strain), and nontypable (6 strains) were tested. No source or serotype variability was detected among GBS strains, and binding was uniformly less than 1.5% of available fibronectin. Lack of detectable binding occurred at both the log and stationary growth phases and persisted despite **treatment** with trypsin or neuraminidase or opsonization with IgG contg. high levels (>10 .mu.g/mL) of **antibody** specific for the Ia, II, or III GBS capsular polysaccharides. Incubation with GBS did not inhibit binding to the Cowan 1 strain of **Staphylococcus aureus**. Strain COH 31-15, and isogenic, type III, capsule-deficient mutant of COH 31r/s, also failed to bind fibronectin. In contrast to other streptococci, GBS do not have readily detectable receptors for sol. fibronectin as part of their surface structures. If present, binding sites for sol. fibronectin are deep to surface structures, obscured from host defense systems, or require the presence of other factors to facilitate their recognition of fibronectin. The uniform ability of GBS to resist binding to sol. fibronectin could be a significant virulence factor in the pathogenesis of invasive **infections** of infants.

(FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO' ENTERED AT 11:02:33 ON 08 JUL 2002)
L7 17 S L3

L8 51 S L5
L9 65 S L7 OR L8
L10 40 DUP REM L9 (25 DUPLICATES REMOVED)

L10 ANSWER 1 OF 40 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2002-362219 [39] WPIDS
DOC. NO. CPI: C2002-102496
TITLE: Composition useful for eliciting an immune response against Borrelia burgdorferi bacterium and for **preventing** lyme disease, has isolated decorin binding peptide and **fibronectin binding** peptide.
DERWENT CLASS: B04 C03 D16
INVENTOR(S): BROWN, E L; HOEOEK, M; JOHNSON, B B; KIM, J; PROBERT, W S
PATENT ASSIGNEE(S): (TEXA) UNIV TEXAS A & M SYSTEM
COUNTRY COUNT: 97
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002020046	A1	20020314	(200239)*	EN	68

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002020046	A1	WO 2001-US28541	20010910

PRIORITY APPLN. INFO: US 2000-231133P 20000908
AN 2002-362219 [39] WPIDS
AB WO 200220046 A UPAB: 20020621
NOVELTY - A composition (C) comprises an isolated Borrelia burgdorferi decorin binding protein or peptide (Dbp) and an isolated Borrelia burgdorferi **fibronectin binding** protein or peptide (Fbp) (BBK32).

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for Fbp comprising an amino acid sequence of 10 amino acids residues from the sequence (S1) consisting of 354 amino acids defined fully in the specification, where the 10 amino acid residues are located between 125-165 residues of (S1).

ACTIVITY - Antibacterial; antiarthritic; immunostimulant.

Wild-type mice were immunized with 20 mu g of BBK32 or sdrF (a control protein from **Staphylococcus aureus**) in complete Freund adjuvant or with adjuvant alone. Mice vaccinated with both BBK32 and DbpA received 10 mu g of each proteins. Two weeks after the second immunization, mice were **infected** intradermally with 104 spirochetes (Borrelia burgdorferi) at the base of the tail. One week later, blood was collected and cultured for the presence of spirochetes and 2 weeks later, the mice were

sacrificed and the ear, bladder and one joint were examined for the presence of spirochetes. Blood collected from BBK32 and DbpA/BBK32 vaccinated mice and cultured for the presence of B. burgdorferi had fewer positive blood cultures than untreated or adjuvant only **treated** mice. The proportion of Borrelia positive tissues, however, was only dramatically reduced in mice receiving the multi-component formulation compared to BBK32 vaccinated and control mice. Mice vaccinated with BBK32 or with DbpA/BBK32 developed measurable **antibody** responses to both antigens.

MECHANISM OF ACTION - Vaccine.

USE - (C) is useful for eliciting an immunological response against the proteins in an animal and also for **preventing** lyme disease in an animal (claimed). (C) is also useful for **preventing** erythema migrans, arthritis, carditis, neurological disorders or any other lyme disease-related disorders.

ADVANTAGE - Lyme disease vaccines comprising DbpA and/or the newly characterized BBK32 compositions overcome the limitations of conventional vaccines involving OspA and are superior to those formulations based on OspA regimens.

Dwg.0/4

L10 ANSWER 2 OF 40 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2001:534391 BIOSIS
DOCUMENT NUMBER: PREV200100534391
TITLE: **Collagen binding** protein compositions and methods of use.
AUTHOR(S): Hook, Magnus; Patti, Joseph M. (1); House-Pompeo, Karen; Sthanam, Narayana; Symersky, Jindrich
CORPORATE SOURCE: (1) Missouri City, TX USA
ASSIGNEE: Texas A&M University Systems, College Station, TX, USA
PATENT INFORMATION: US 6288214 September 11, 2001
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (Sep. 11, 2001) Vol. 1250, No. 2, pp. No Pagination. e-file.
ISSN: 0098-1133.
DOCUMENT TYPE: Patent
LANGUAGE: English

AB Disclosed are the **cna** gene and **cna**-derived nucleic acid segments from **Staphylococcus aureus** , and DNA segments encoding **cna** from related bacteria. Also disclosed are Col binding protein (CBP) compositions and methods of use. The CBP protein and antigenic epitopes derived therefrom are contemplated for use in the **treatment** of pathological **infections**, and in particular, for use in the **prevention** of bacterial adhesion to Col. DNA segments encoding these proteins and anti-(Col binding protein) **antibodies** will also be of use in various screening, diagnostic and **therapeutic** applications including active and passive immunization and methods for the **prevention** of bacterial colonization in an animal such as a human. These DNA segments and the peptides derived therefrom are contemplated for use in the preparation of vaccines and, also, for use as carrier proteins in vaccine formulations, and in the formulation of compositions for use in the **prevention** of **S. aureus infection**.

L10 ANSWER 3 OF 40 WPIDS (C) 2002 THOMSON DERWENT

ACCESSION NUMBER: 2001-607512 [69] WPIDS
DOC. NO. NON-CPI: N2001-453496
DOC. NO. CPI: C2001-180527
TITLE: Novel isolated **antibody** which recognizes **collagen-binding** peptide such as **CNA19** peptide from **Staphylococcus aureus**, useful for **preventing** or **treating Staphylococcus aureus** or epidermidis **infection**.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): CASOLINI, F; DOMANSKI, P; HOOK, M; PATEL, P; PATTI, J; SPEZIALE, P; VISAI, L; XU, Y
PATENT ASSIGNEE(S): (INHI-N) INHIBITEX INC; (UYPA-N) UNIV PAVIA; (TEXA) UNIV TEXAS A & M SYSTEM
COUNTRY COUNT: 94
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001070267	A1	20010927	(200169)*	EN	107
AU 2001056958	A	20011003	(200210)		

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001070267	A1	WO 2001-US8554	20010319
AU 2001056958	A	AU 2001-56958	20010319

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001056958	A Based on	WO 200170267

PRIORITY APPLN. INFO: US 2000-225402P 20000815; US 2000-189968P 20000317; US 2000-199370P 20000425
AN 2001-607512 [69] WPIDS
AB WO 200170267 A UPAB: 20011126
NOVELTY - An isolated **antibody** (I) which recognizes a **collagen-binding** peptide such as **CNA19** peptide from **Staphylococcus aureus**, is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) isolated antisera (II) containing (I);
(2) a diagnostic kit (III) comprising (I) and unit for detecting binding by (I);
(3) a pharmaceutical composition (IV) for **treating** or **preventing** an **infection** of **S. aureus** or **S.epidermidis** comprises an effective amount of (I);

(4) inducing (M1) an immunological response involves administering to a patient an isolated **S.aureus CNA19** peptide;

(5) identifying (M2) **antibodies** capable of displacing bacteria bound to surface proteins on the extracellular matrix or **antibodies** capable of displacing bacteria that can attach themselves to specific proteins, involves labeling the surface proteins of the extracellular matrix or proteins that are known to be bound by bacteria, combining the labeled proteins with bacteria known to be capable of binding the proteins for a time sufficient to ensure that the bacteria will bind to the labeled proteins, harvesting the bacteria bound to labeled proteins, introducing **antibodies** suspected of having displacement activity to the bacteria bound to labeled proteins, and identifying **antibodies** which cause the displacement of the bacteria from the proteins;

(6) an isolated displacing **antibody** (V) produced by M2;

(7) an isolated **cross-reactive antibody** (VI) that is generated against region 151-318 of the **collagen binding** domain of the **S. aureus CNA** protein;

(8) a diagnostic kit (VII) for immunodetection comprising, in a suitable container, (I) and an immunodetection reagent;

(9) an isolated monoclonal **antibody** (VIII) raised against **CNA** protein from **S.aureus**; and

(10) isolated antisera (IX) containing (VIII);

ACTIVITY - Antibacterial. Female Balb/C mice were **treated** with a single 0.5 ml intraperitoneal (IP) injection of monoclonal **antibody** 9G3, 3B12, or were untreated. On day 0, approx. 7 multiply 107 colony forming units (CFU) **Staphylococcus aureus** were administered to all animals through the tail vein. Twenty-four hours after IgG administration, the mice were challenged with a single intravenous (IV) injection of **S.aureus**. The mice were followed for 10 days at which point all remaining mice were sacrificed. Significant differences in the survival times between **treatment** groups were detected. The results showed that 67% of the mice that received 9G3 survived the bacterial challenge, and in contrast only 20% of the untreated mice survived the entire study period. 70% of the mice that received 3B12 survived the bacterial challenge. In contrast, only 27% of the control mice survived the ten day study.

MECHANISM OF ACTION - Inhibitor of binding of **S. aureus** or **S.epidermidis** to a **collagen binding** site (claimed); Vaccine.

USE - (I) is useful for **preventing** or **treating S.aureus** or **S. epidermidis infection** in human or animal, and for displacing **S.aureus** or **S. epidermidis** bound to collagen (claimed). (I) is useful for **treating** medical instruments in order to reduce or eliminate the possibility of their becoming **infected** or further spreading the **infection**. (I) is useful for developing **antibody** compositions that are effective in **preventing** or **treating infections** from more than one species of **Staphylococcal** bacteria. (I) is useful for interfering with, modulating, and inhibiting binding

interactions between **Staphylococcal** bacteria, collagen, for detecting the presence of **Staphylococcal** bacteria or **Staphylococcal** collagen or binding proteins, to diagnose **Staphylococcal infection**, as research tools, for development of vaccine for passive immunization against **Staphylococcal infections**, and in production facilities or laboratories to isolate additional quantities of **collagen-binding** proteins.
Dwg.0/16

L10 ANSWER 4 OF 40 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 2001494945 MEDLINE
DOCUMENT NUMBER: 21247184 PubMed ID: 11348701
TITLE: **Antibodies** against a truncated **Staphylococcus aureus fibronectin-binding** protein protect against dissemination of **infection** in the rat.
AUTHOR: Rennermalm A; Li Y H; Bohaufs L; Jarstrand C; Brauner A; Brennan F R; Flock J I
CORPORATE SOURCE: Department of Microbiology, Pathology and Immunology, Karolinska Institute, Huddinge, Sweden.
SOURCE: VACCINE, (2001 May 14) 19 (25-26) 3376-83.
Journal code: 8406899. ISSN: 0264-410X.
PUB. COUNTRY: England: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200109
ENTRY DATE: Entered STN: 20010910
Last Updated on STN: 20010910
Entered Medline: 20010906

AB **Staphylococcus aureus** bacteraemia (SAB) originating from local **infections** can lead to severe secondary **infections** such as endocarditis. The protective effect of **antibodies** against secondary **infections** was studied in a rat model, where a local joint **infection** leads to bacteraemia and endocarditis on damaged aortic valves. In this study, immunizations with a truncated D2-domain of the **S. aureus fibronectin-binding** protein displayed on a cow-pea mosaic virus (CPMV-D) carrier induced protection against endocarditis ($P < 0.05$). Opsonization of **S. aureus** with **antibodies** raised against CPMV-D stimulated both neutrophil activity and macrophage phagocytosis in vitro. Furthermore, intravenous administration of these **antibodies** protected mice from weight loss due to SAB.

L10 ANSWER 5 OF 40 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 2001:979699 SCISEARCH
THE GENUINE ARTICLE: 498ZW
TITLE: Protection against experimental **Staphylococcus aureus** arthritis by vaccination with clumping factor A, a novel virulence determinant
AUTHOR: Josefsson E (Reprint); Hartford O; O'Brien L; Patti J M; Foster T
CORPORATE SOURCE: Gothenburg Univ, Dept Rheumatol, Guldhedsgatan 10,

S-41346 Gothenburg, Sweden (Reprint); Gothenburg Univ, Dept Rheumatol, S-41346 Gothenburg, Sweden; Inhibitex, Alpharetta, GA USA; Trinity Coll Dublin, Dept Microbiol, Dublin, Ireland
COUNTRY OF AUTHOR: Sweden; USA; Ireland
SOURCE: JOURNAL OF INFECTIOUS DISEASES, (15 DEC 2001) Vol. 184, No. 12, pp. 1572-1580.
Publisher: UNIV CHICAGO PRESS, 1427 E 60TH ST, CHICAGO, IL 60637-2954 USA.
ISSN: 0022-1899.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 31

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The importance of the fibrinogen-binding adhesin clumping factor A (ClfA) in the pathogenesis of **Staphylococcus aureus** septic arthritis was examined in an animal model. The protective effect of active and passive immunization with ClfA also was investigated in **S. aureus infection** models. The severity of arthritis was markedly reduced in mice challenged intravenously with a clfA mutant, compared with mice **infected** with the wild-type strain. Mice immunized with recombinant ClfA and challenged with **S. aureus** developed less-severe arthritis than did mice immunized with a control antigen. Passive immunization of mice with rat and rabbit anti-ClfA **antibodies** protected against **S. aureus** arthritis and sepsis-induced death, indicating that the protection by active immunization is **antibody** mediated. Taken together, these data strongly suggest that ClfA is a crucial virulence determinant for septic arthritis and an excellent target for the generation of immune **therapies** directed against **S. aureus**.

L10 ANSWER 6 OF 40 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2001-025140 [03] WPIDS
DOC. NO. NON-CPI: N2001-019580
DOC. NO. CPI: C2001-007753
TITLE: New human monoclonal **antibody** against **Staphylococcus aureus**, useful for **treating** and **preventing infections**, including those caused by methicillin-resistant strains.
DERWENT CLASS: B04 D16 P14 S03
INVENTOR(S): DEO, Y M; KELER, T
PATENT ASSIGNEE(S): (MEDA-N) MEDAREX INC
COUNTRY COUNT: 92
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000071585	A1	20001130	(200103)*	EN	82

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

AU 2000058671 A 20001212 (200115)

EP 1173485 A1 20020123 (200214) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000071585	A1	WO 2000-US12116	20000503
AU 2000058671	A	AU 2000-58671	20000503
EP 1173485	A1	EP 2000-944598	20000503
		WO 2000-US12116	20000503

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000058671	A	Based on	WO 200071585
EP 1173485	A1	Based on	WO 200071585

PRIORITY APPLN. INFO: US 1999-132212P 19990503
AN 2001-025140 [03] WPIDS
AB WO 200071585 A UPAB: 20010116
NOVELTY - Isolated human monoclonal **antibody** (I), its antigen-binding fragment that binds to **Staphylococcus aureus**, or its antigen has:
(i) reactivity with at least one **S. aureus** isolate;
(ii) a binding affinity constant at least about 107 M-1;
(iii) causes opsonization; and/or
(iv) mediates phagocytosis or inhibits growth of **S. aureus** in the presence of human effector cells at 10 micro g/ml or less in vitro.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) a hybridoma (II) that produces (I) comprising a transgenic non-human animal B cell containing a human heavy and light chain transgene fused to an immortalized cell;
(2) a transgenic non-human animal (III) that expresses (I) and has a genome containing a human heavy and light chain transgene;
(3) producing (I) by immunizing (III) with whole **S. aureus** or its antigen so that **antibodies** are produced, B cells are isolated and fused with myeloma cells to form (II); and
(4) a bispecific molecule (BAb) comprising at least one first binding specificity for **S. aureus** or its antigen and a second binding specificity for an Fc receptor.
ACTIVITY - Antibacterial. No supporting data is given.
MECHANISM OF ACTION - Induction of phagocytosis or killing of **S. aureus** in the presence of effector cells.
Selected hybridoma supernatants that showed specific binding to **S. aureus** (2G12, 2H12, 8.1E5, 8.2C1, 7F1 and 6D12) were tested for the ability to mediate **S. aureus** phagocytosis. Polymorphonuclear cells (PMNs) were incubated for 30 minutes at 37 deg. C with FITC labeled **S. aureus** with and without supernatant from mixed hybridoma cultures. Changes in fluorescence were detected using a FACSscan. A shift in the fluorescence was detected when PMNs and **S. aureus**

were incubated with the supernatant from the mixed hybridoma cultures which indicated that there was phagocytosis of FITC labeled **S. aureus**. No significant changes were detected in PMNs alone, PMNs incubated without supernatant from the mixed hybridoma cultures and PMNs incubated with Escherichia coli and supernatant from the mixed hybridoma cultures.

USE - (I) or their bi- or multi-specific derivatives are used: (1) to inhibit the growth or to induce the phagocytosis of **S. aureus** in the presence of human effector cells; (2) to **treat** of **prevent** an **S. aureus**-related invasive or toxigenic **infectious** diseases, specifically bacteremia, osteomyelitis, septic arthritis or thrombophlebitis, acute bacterial endocarditis, food poisoning, scalded skin syndrome and toxic shock, in humans or animals; and (3) to detect **S. aureus** in standard immunoassay tests (claimed).

For **therapeutic** use, (I) may be conjugated to a cytotoxin, drug or radioisotope.

ADVANTAGE - (I) are effective against methicillin-resistant strains and are less likely to induce development of resistant strains than antibiotics after widespread use.

Dwg.0/12

L10 ANSWER 7 OF 40 WPIDS (C) 2002 THOMSON DERWENT

ACCESSION NUMBER: 2000-687639 [67] WPIDS
DOC. NO. NON-CPI: N2000-508371
DOC. NO. CPI: C2000-209379
TITLE: New **collagen-binding** protein from Enterococcus, useful e.g. in protective vaccines, for diagnosis and **treatment** of Enterococcal **infections** and for screening for compounds that inhibit **collagen binding** by enterococci.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): DUH, R; HOOK, M; KRIEKEMEYER, B; MURRAY, B E; NALLAPAREDDY, S R; OWENS, R T; QIN, X; RICH, R L; SINGH, K V; WEINSTOCK, G M
PATENT ASSIGNEE(S): (TEXA) UNIV TEXAS A & M SYSTEM; (TEXA) UNIV TEXAS MEDICAL SCHOOL
COUNTRY COUNT: 91
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000068242	A1	20001116	(200067)*	EN	147
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW					
AU 2000051280	A	20001121	(200112)		
EP 1177203	A1	20020206	(200218)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000068242	A1	WO 2000-US12590	20000510
AU 2000051280	A	AU 2000-51280	20000510
EP 1177203	A1	EP 2000-935885	20000510
		WO 2000-US12590	20000510

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000051280	A	Based on	WO 200068242
EP 1177203	A1	Based on	WO 200068242

PRIORITY APPLN. INFO: US 1999-133334P 19990510
AN 2000-687639 [67] WPIDS
AB WO 200068242 A UPAB: 20001223
NOVELTY - An isolated **collagen-binding** protein (I) from Enterococcus, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated peptide (II) from the **collagen-binding** region of (I), i.e. amino acids (aa) 174-319 of (I) from E. faecalis;

(2) isolated DNA (III) that encodes (I);

(3) isolated **antibodies** (Ab) that recognize (I) or its **collagen-binding** region;

(4) pharmaceutical compositions containing (I), (II), (Ab) and a vehicle, carrier or excipient;

(5) inhibiting the attachment of enterococcal bacteria to collagen comprising administering (I);

(6) **treating** or **preventing** enterococcal **infection** in a patient comprising administering (4);

(7) a diagnostic kit for detecting (I) comprising Ab;

(8) generating an immune response to a **collagen binding** protein from an enterococcal bacteria comprising administering (I) to a host;

(9) a vaccine for generating an immune response to Enterococcus comprising (I) or (III) plus a vehicle, carrier or excipient;

(10) reducing or **preventing** enterococcal **infection** of an indwelling medical device comprising coating it with (I); and

(11) an isolated extracellular matrix-binding protein (Ia) from Enterococcus that binds to collagen types I and IV or to laminin.

ACTIVITY - Antibacterial; immunostimulant.

MECHANISM OF ACTION - Vaccine. **Antibodies** (immunoglobulin G) raised against (I) were preincubated with the E. faecalis strain OG1RF and then the **treated** cells were tested for adhesion to collagen and laminin. At an **antibody** concentration of 1 micro g/ml, the mean proportions of **treated** cells that adhered were 2.2 % (21.6 %) for collagen I; 3.2 % (25.9 %) for collagen IV and 3.5 % (26.4 %) for laminin, with figures in parentheses referring to cells preincubated with pre-immune serum.

USE - (I) is used:

(i) to inhibit attachment of enterococci to collagen, by either administering to a patient or applying to implanted biological materials or medical devices (as a coating on in-dwelling catheters,

vascular stents etc.);
(ii) to **treat** or **prevent** enterococcal **infections**, specifically as a vaccine;
(iii) to raise specific **antibodies** (Ab);
(iv) when labeled, for in vitro or in vivo detection of enterococcal **infection**; and
(v) to screen for compounds that inhibit **collagen binding** by enterococci.
DNA (III) that encodes (I) can also be used for vaccination and for recombinant production of (I), while its fragments are useful as probes and primers for (diagnostic) detection of the (I)-encoding gene. Antibiotics to (I) are useful for passive immunization, for affinity isolation of (I) and as diagnostic reagents for detection of enterococci.
ADVANTAGE - Enterococcal **infections** can be **treated** without the use of antibiotics.
Dwg.0/16

L10 ANSWER 8 OF 40 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2000-256496 [22] WPIDS
DOC. NO. CPI: C2000-078210
TITLE: Immunizing patients to **treat** **staphylococcal infections** comprises administering immunoglobulins having higher **antibody** titer to **staphylococcal** adhesin protein.
DERWENT CLASS: B04 D16
INVENTOR(S): FOSTER, T J; HOOK, M; PATTI, J M
PATENT ASSIGNEE(S): (INHI-N) INHIBITEX INC; (QUEE-N) QUEEN ELIZABETH COLLEGE DUBLIN; (TEXA) UNIV TEXAS A & M SYSTEM
COUNTRY COUNT: 88
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000012132	A1	20000309	(200022)*	EN	84
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW					
AU 9956966	A	20000321	(200031)		
NO 2001000981	A	20010426	(200131)		
EP 1121149	A1	20010808	(200146)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000012132	A1	WO 1999-US19729	19990831
AU 9956966	A	AU 1999-56966	19990831
NO 2001000981	A	WO 1999-US19729	19990831
		NO 2001-981	20010227
EP 1121149	A1	EP 1999-943981	19990831
		WO 1999-US19729	19990831

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9956966	A	Based on	WO 200012132
EP 1121149	A1	Based on	WO 200012132

PRIORITY APPLN. INFO: US 1998-98449P 19980831
AN 2000-256496 [22] WPIDS
AB WO 200012132 A UPAB: 20000508
NOVELTY - Immunizing patients to **treat** or **prevent** **staphylococcal infection** comprises administering immunologically effective amount of purified immunoglobulins (IG) obtained by **treating** donor plasma (I) having higher **antibody** (Ab) titer to **staphylococcal** adhesin.

DETAILED DESCRIPTION - Immunizing patients to **treat** or **prevent staphylococcal infections** comprising:

(a) providing a source of donor plasma having a higher than normal **antibody** titer to a **staphylococcal** adhesin;

(b) **treating** the donor plasma to obtain purified immunoglobulin; and

(c) administering to the patient an immunologically effective amount of purified immunoglobulin-containing donor plasma.

INDEPENDENT CLAIMS are also included for the following:

(1) method of obtaining (I) comprises recovering plasma from the blood sample having higher Ab titer to **staphylococcal** adhesin and **treating** the donor plasma to obtain IG in a purified state that has higher Ab titer to **staphylococcal** adhesin;

(2) a donor plasma composition obtained by the method (2); and

(3) a kit (II) for identification of blood or plasma having higher titers of Ab comprises an antigen to a **staphylococcal** Ab, a support to bind the antigen and a detectable label that can be attached to the Ab.

ACTIVITY - Antibacterial; vulnerary. The effect of SA-IVIG MS502 (S) in the **treatment** of **staphylococcal infection** was tested using mice 5-6 weeks old. The animals were injected with 5.6 multiply 107 CFU **Staphylococcus aureus** (SA) 601 via the tail vein. The next day the animals were **treated** with single 0.5 ml intraperitoneal injection of (S). Control mice were left untreated. The mice were followed up for 5 days and were then sacrificed. The results showed that 93% of the mice that received (S) prior tc SA challenge survived whereas only 76 % of the control mice survived the bacterial challenge, clearly indicating that the administration of ClfA donor selected human SA-IVIG provided a significant and effective **treatment** of **staphylococcal infections**.

MECHANISM OF ACTION - Vaccine.

USE - The method is useful for **treating** **staphylococcal infections** (claimed) and thereby **treats** mastitis, arthritis, endocarditis, septicemia, osteomyelitis, furunculosis, cellulitis, pyemia, pneumonia, pyoderma, suppuration of wounds, food poisoning and bladder **infections**. (II) is useful for identifying blood or plasma having higher **antibody** titers to **staphylococcal**

adhesin (claimed).
ADVANTAGE - The method is useful for **treating** wide variety of **staphylococcal infections**.
Dwg.0/2

L10 ANSWER 9 OF 40 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1999-119876 [10] WPIDS
DOC. NO. CPI: C1999-034905
TITLE: New isolated **fibronectin binding** protein B - obtained from **Staphylococcus aureus** WCUH29, used to develop products for the diagnosis, **treatment** or **prevention** of bacterial **infections**
.
DERWENT CLASS: B04 D16
INVENTOR(S): BURNHAM, M K R; HODGSON, J E
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5858709	A	19990112	(199910)*		14

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5858709	A	US 1996-732791	19961015

PRIORITY APPLN. INFO: US 1996-732791 19961015
AN 1999-119876 [10] WPIDS
AB US 5858709 A UPAB: 19990310
An isolated polynucleotide (PN) which comprises a member selected from: (1) a PN (A) encoding a 186 amino acid (aa) polypeptide of **fibronectin binding** protein (FBP) B of **Staphylococcus aureus** strain WCUH29; and (2) a PN that is complementary to the PN of (1). Also claimed are: (1) an isolated PN comprising a member selected from: (a) a PN encoding the same mature polypeptide expressed by the DNA contained in NCIMB No. 40794 and having a PN sequence 558 nucleotides in length of FBP-B of **S. aureus** strain WCUH29; and (b) a PN that is complementary to the PN of (a); (2) a vector comprising the DNA of (A); and (3) a host cell comprising the vector and DNA of (2).
USE - The FBP-B polypeptides can be used as antibacterial agents to block binding of organisms to host tissue, as vaccines to raise **antibodies** to the organism in the host animal or as antigens to raise **therapeutic antibodies** which can be used to block binding of the organisms to host tissue. The polypeptides can also be used to identify compounds which bind to and inhibit their activity.
Dwg.0/2

L10 ANSWER 10 OF 40 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 2000090471 MEDLINE
DOCUMENT NUMBER: 20090471 PubMed ID: 10627045
TITLE: Bacterial **fibronectin-binding**

proteins and endothelial cell surface fibronectin mediate adherence of **Staphylococcus aureus** to resting human endothelial cells.

AUTHOR: Peacock S J; Foster T J; Cameron B J; Berendt A R
CORPORATE SOURCE: Nuffield Department of Pathology and Bacteriology, The John Radcliffe Hospital, Headington, Oxford, UK.. sharon.peacock@ndp.ox.ac.uk

SOURCE: MICROBIOLOGY, (1999 Dec) 145 (Pt 12) 3477-86.
Journal code: 9430468. ISSN: 1350-0872.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200002
ENTRY DATE: Entered STN: 20000229
Last Updated on STN: 20000229
Entered Medline: 20000217

AB Adhesion of **Staphylococcus aureus** to human endothelial cells is implicated in the pathogenesis of invasive **staphylococcal** disease. The adhesion to endothelial cells of isogenic mutants defective in defined surface structures was studied. Three strains of **S. aureus** defective in **fibronectin-binding** proteins **FnBPA** and **FnBPB** showed reduced adhesion. This was fully restored by complementation of a **FnBPA- FnBPB-** mutant derived from strain 8325-4 with a multicopy plasmid encoding **FnBPA** or **FnBPB**. Adhesion of mutants defective in other surface structures was unaffected. Anti-fibronectin **antibodies** blocked adhesion of 8325-4 to endothelial cells, while adhesion of strains 8325-4, P1 and five clinical isolates was inhibited by the recombinant form of the binding domain of **FnBPB** (rFNBD) from Streptococcus dysgalactiae. Adherence of bacterial aggregates resulting from the presence of purified fibrinogen was also inhibited by rFNBD protein. Three strains of **S. aureus** defective in **FnBPA** and **FnBPB** were not internalized by endothelial cells. **S. aureus FnBPs** mediate adhesion to human endothelial cells and are required for subsequent internalization, interactions of potential relevance to pathogenesis and **treatment**.

L10 ANSWER 11 OF 40 MEDLINE
ACCESSION NUMBER: 2000004162 MEDLINE
DOCUMENT NUMBER: 20004162 PubMed ID: 10535504
TITLE: Immunogenicity of alpha-toxin, capsular polysaccharide (CPS) and recombinant **fibronectin-binding** protein (r-**FnBP**) of **Staphylococcus aureus** in rabbit.

AUTHOR: Park H M; Yoo H S; Oh T H; Kim D; Han H R
CORPORATE SOURCE: Department of Internal Medicine and Infectious Disease, College of Veterinary Medicine, Seoul National University, Sinlim-dong, Korea.

SOURCE: JOURNAL OF VETERINARY MEDICAL SCIENCE, (1999 Sep) 61 (9) 995-1000.
Journal code: 9105360. ISSN: 0916-7250.
PUB. COUNTRY: Japan
Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199911
ENTRY DATE: Entered STN: 20000111
Last Updated on STN: 20000111
Entered Medline: 19991118

AB This study was conducted to evaluate the **antibody** levels of alpha-toxin, capsular polysaccharides (CPS) and **fibronectin-binding** protein (**FnBP**) in rabbits immunized with an experimental vaccine against **Staphylococcus aureus** and to develop the bovine mastitis subunit vaccine in the future. Enzyme immunoassay was used for detection of IgG **antibodies** against **staphylococcal** CPS, alpha-toxin and **FnBP**. The levels of specific **antibodies** against CPS, alpha-toxin and **FnBP** in immunized rabbits were significantly increased after first immunization compared with control animals ($p<0.05$). Of three antigen used in vaccine, immunogenicity of CPS was relatively lower, compared with those of alpha toxin and **fibronectin binding** protein. Numbers of **S. aureus** in blood of immunized groups were lower than those of control group after bacterial challenge. But the bacterial numbers among immunized groups were not significantly different. **S. aureus** counts in excised organs were significantly lower in all immunized rabbits than in PBS-control group ($p<0.05$). The present study showed that alpha-toxin, capsular polysaccharide and **fibronectin binding** protein included in a subunit vaccine were protective.

L10 ANSWER 12 OF 40 MEDLINE DUPLICATE 3
ACCESSION NUMBER: 2000032093 MEDLINE
DOCUMENT NUMBER: 20032093 PubMed ID: 10562719
TITLE: Extracellular-matrix-binding proteins as targets for the **prevention** of **Staphylococcus aureus infections.**
AUTHOR: Flock J I
CORPORATE SOURCE: Karolinska Institutet, Department of Immunology, Microbiology, Pathology and Infectious Diseases, Huddinge University Hospital, F82. S-141 86 Huddinge, Sweden.. jan-ingmar.flock@impi.ki.se
SOURCE: MOLECULAR MEDICINE TODAY, (1999 Dec) 5 (12) 532-7. Ref: 39
Journal code: 9508560. ISSN: 1357-4310.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199912
ENTRY DATE: Entered STN: 20000113
Last Updated on STN: 20000113
Entered Medline: 19991214

AB **Staphylococcal infections** cause a number of serious diseases, ranging from acute septicaemia to chronic problems such as osteomyelitis and septic arthritis. Resistance to antibiotics is a growing problem and has re-ignited interest in vaccines and in passive immunization with **antibodies**.

Natural **infections** and vaccines based on whole bacteria lead to poor **antibody** responses, but recent research using animal models of several **staphylococcal** diseases reveals that vaccines based on recombinant **staphylococcal** extracellular-matrix-binding proteins are much more protective. Passive immunization with **antibodies** against one of these proteins (**collagen-binding** protein) also shows promise in a mouse model of sepsis.

L10 ANSWER 13 OF 40 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 1999:467807 SCISEARCH
THE GENUINE ARTICLE: 205NN
TITLE: Adhesins as targets for vaccine development
AUTHOR: Wizemann T M; Adamou J E; Langermann S (Reprint)
CORPORATE SOURCE: MEDIMMUNE INC, DEPT IMMUNOL & MOL GENET, 35 W WATKINS MILL RD, GAITHERSBURG, MD 20878 (Reprint); MEDIMMUNE INC, DEPT IMMUNOL & MOL GENET, GAITHERSBURG, MD 20878
COUNTRY OF AUTHOR: USA
SOURCE: EMERGING INFECTIOUS DISEASES, (MAY-JUN 1999) Vol. 5, No. 3, pp. 395-403.
Publisher: CENTER DISEASE CONTROL, ATLANTA, GA 30333.
ISSN: 1080-6040.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: CLIN
LANGUAGE: English
REFERENCE COUNT: 66
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Blocking the primary stages of **infection**, namely bacterial attachment to host cell receptors and colonization of the mucosal surface, may be the most effective strategy to **prevent** bacterial **infections**. Bacterial attachment usually involves an interaction between a bacterial surface protein called an adhesin and the host cell receptor. Recent preclinical vaccine studies with the FimH adhesin (derived from uropathogenic Escherichia coli) have confirmed that **antibodies** elicited against an adhesin can impede colonization, block **infection** , and **prevent** disease. The studies indicate that prophylactic vaccination with adhesins can block bacterial **infections**. With recent advances in the identification, characterization, and isolation of other adhesins, similar approaches are being explored to **prevent** **infections**, from otitis media and dental caries to pneumonia and sepsis.

L10 ANSWER 14 OF 40 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1998-506328 [43] WPIDS
DOC. NO. NON-CPI: N1998-394727
DOC. NO. CPI: C1998-152759
TITLE: New microbial surface component that recognises adhesive matrix molecule - used to diagnose and **treat** bacterial **infections**, particularly by **Staphylococcus** **aureus**, also tumour cell metastasis.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): MECHAM, R P; PARK, P W
PATENT ASSIGNEE(S): (UNIW) UNIV WASHINGTON

COUNTRY COUNT: 67
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9838312	A1	19980903	(199843)*	EN	128
RW: AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG					
W: AL AU BA BB BG BR CA CN CU CZ EE GE GH HU IL IS JP KP KR LC LK LR LT LV MG MK MN MX NO NZ PL RO SG SI SK TR TT UA UZ VN YU					
AU 9721924	A	19980918	(199908)		
EP 942982	A1	19990922	(199943)	EN	
R: AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC NL PT RO SE SI					
JP 2001505061	W	20010417	(200128)		118

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9838312	A1	WO 1997-US3106	19970228
AU 9721924	A	AU 1997-21924	19970228
EP 942982	A1	EP 1997-914810	19970228
		WO 1997-US3106	19970228
JP 2001505061	W	WO 1997-US3106	19970228
		JP 1998-535692	19970228

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9721924	A	Based on	WO 9838312
EP 942982	A1	Based on	WO 9838312
JP 2001505061	W	Based on	WO 9838312

PRIORITY APPLN. INFO: US 1996-609134 19960229
AN 1998-506328 [43] WPIDS
AB WO 9838312 A UPAB: 19981203
New **microbial surface** component-**recognising adhesive** matrix molecule (I) is a protein (and/or its active fragments, agonists or mimics) that (i) can bind elastin; (ii) is inhibited by sodium dodecylsulphate and (iii) has increased activity in presence of thio reductants.

Also claimed are: (1) **antibodies** (Ab) to (I); (2) immortal cell lines that produce monoclonal Ab; (3) DNA (II), or its degenerate variants that encode (I), i.e. a 789 bp sequence (A) reproduced, its degenerate equivalents or sequences that hybridise to it under standard conditions; (4) recombinant DNA (IIa) that includes (II); (5) probes to screen for (I) in other species produced from (II) or from the amino acid (aa) sequence NNFKDDFEKN (B); (6) unicellular hosts transformed with (IIa); (7) methods and kits for detecting (i) presence or activity of (I), (ii) binding sites for (I) or (iii) ability of compounds to modulate activity of (I); (8) polypeptides (III) with a sequence corresponding to the elastin-binding site of (I), containing 8-80 aa and able to bind to elastin; (9) nucleic acid (IV) encoding (III); (10) cloning and expression vectors containing (IV); and (11) unicellular hosts or

mammalian cells transfected or transformed with such vectors.
USE - (I) is involved in attachment, colonisation and invasion of host cells by bacteria. Detection of (I), using Ab in standard binding assays, is used to indicate an invasive stimulus, specifically bacterial **infection**, particularly by **Staphylococcus aureus**. (I), also agents that promote or inhibit its production, promote or mimic its activity, or its specific binding partners, are used to **treat** disease, particularly where caused, at least in part, by bacterial **infection**, e.g. in cases of tumour metastasis, wound healing, **infective** endocarditis, osteomyelitis, aortitis, pneumonia and scalded skin syndrome, either alone or in combination with other **therapeutic** agents. (III), which inhibit binding of (I) to elastin, are used (i) to **treat S . aureus infection** and (ii) as immunogens to raise Ab. Agents that modulate activity of (I) are potentially useful **therapeutically**. Cells of (6) and (12) are used for recombinant production of (I) and (III), and (II) is used to prepared antisense molecules and ribozymes for inhibition of (I) expression.
Dwg.0/16

L10 ANSWER 15 OF 40 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1998-413816 [35] WPIDS
DOC. NO. NON-CPI: N1998-322073
DOC. NO. CPI: C1998-124865
TITLE: **Antibody** that binds to **fibronectin-binding** protein, **preventing** its binding to fibronectin - used to **treat** or **prevent** bacterial **infection**, especially by **Staphylococci** and Streptococci.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): HOOK, M; HOUSE-POMPEO, K L; JOH, D; MCGAVIN, M J; PATTI, J M; SPEZIALE, P; HOEOEK, M
PATENT ASSIGNEE(S): (TEXA) UNIV TEXAS A & M SYSTEM; (UYMA-N) UNIV MANITOBA; (UYPA-N) UNIV PAVIA
COUNTRY COUNT: 82
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9831389	A2	19980723	(199835)*	EN	199
RW: AT BE CH DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW					
AU 9866479	A	19980807	(199901)		
EP 971740	A2	20000119	(200009)	EN	
R: AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
AU 744723	B	20020228	(200228)		
JP 2002513398	W	20020508	(200234)		248

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9831389	A2	WO 1998-US1222	19980121
AU 9866479	A	AU 1998-66479	19980121
EP 971740	A2	EP 1998-908439	19980121
		WO 1998-US1222	19980121
AU 744723	B	AU 1998-66479	19980121
JP 2002513398	W	JP 1998-533382	19980121
		WO 1998-US1222	19980121

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9866479	A	Based on	WO 9831389
EP 971740	A2	Based on	WO 9831389
AU 744723	B	Previous Publ.	AU 9866479
		Based on	WO 9831389
JP 2002513398	W	Based on	WO 9831389

PRIORITY APPLN. INFO: US 1997-36139P 19970121
AN 1998-413816 [35] WPIDS
AB WO 9831389 A UPAB: 19981001

Antibody (Ab) that binds to a **fibronectin-binding** domain (FBD) of a **fibronectin-binding** protein (FBP), and inhibits binding of FBP to fibronectin (Fn) is new.

Also claimed are: (1) isolated peptides (I) of an FBP that do not bind to Fn; (2) fusion protein (II) containing at least one (I) linked to a second amino acid sequence (III); (3) nucleic acid (IV) encoding (I).

USE - Ab, (I) and (IV) are all useful for immunisation (active or passive) and (by inhibiting binding of bacteria to Fn) for **preventing** or **treating infection** in humans or other animals, particularly by **staphylococci** or streptococci, e.g. meningitis, otitis media, pneumonia, endocarditis, mastitis in cattle, abortion in horses and many others. Ab and (I) may also be used to coat medical devices, contact lenses, surgical implants etc.Ab are also immunoassay reagents for diagnostic detection of FBP; (IV) is used as probe (for diagnosis or isolation of variant sequences); for expression of recombinant (I) and as primer for diagnostic amplification or for producing mutant peptides. Cells transformed with (IV) can be used to screen compounds for ability to form complexes with Fn (potential **therapeutic** agents) **Therapeutic** agents are administered topically (specifically), parenterally or orally, or incorporated in wound dressings etc.

ADVANTAGE - Since Ab block binding of bacteria, they should be effective against antibiotic-resistant strains, and may replace antibiotic **therapy** or increase its effectiveness.

Dwg.15/16

L10 ANSWER 16 OF 40 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1998-219113 [20] WPIDS
DOC. NO. NON-CPI: N1998-173246
DOC. NO. CPI: C1998-069423
TITLE: DNA encoding **Staphylococcus aureus fibronectin-**

binding protein - useful for producing recombinant protein, DNA vaccination, etc..

DERWENT CLASS: B04 D16 S03
INVENTOR(S): BURNHAM, M K R; HODGSON, J E
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC; (BURN-I) BURNHAM M K R; (HODG-I) HODGSON J E
COUNTRY COUNT: 20
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 837131	A2	19980422	(199820)*	EN	18
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
JP 10290693	A	19981104	(199903)		49
US 6348584	B1	20020219	(200221)		

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
EP 837131	A2		EP 1997-308232	19971016
JP 10290693	A		JP 1997-321878	19971017
US 6348584	B1	Provisional	US 1996-28673P	19961017
		Provisional	US 1996-32765P	19961211
			US 1997-947014	19971008

PRIORITY APPLN. INFO: US 1996-32765P 19961211; US 1996-28673P 19961017; US 1997-947014 19971008

AN 1998-219113 [20] WPIDS

AB EP 837131 A UPAB: 19980520

Isolated polynucleotide (A) is selected from:

(a) a polynucleotide having at least 70% identity to a polynucleotide encoding a polypeptide comprising amino acids 1-236 of a sequence given in the specification;

(b) a polynucleotide which is complementary to the polynucleotide of (a), and

(c) a polynucleotide comprising at least 15 sequential bases of the polynucleotide of (a) or (b).

Also claimed are:

(1) a vector comprising DNA as described in (A);

(2) a host cell comprising the vector of (1);

(3) a process for producing a polypeptide, comprising expressing from the host cell of (2) a polypeptide encoded by the DNA;

(4) a process for producing a cell which expresses a polypeptide, comprising transforming or transfecting the cell with the vector of (1) such that the cell expresses the polypeptide encoded by the cDNA contained in the vector;

(5) a polypeptide expressed by (A);

(6) a polypeptide comprising an animo acid sequence given in the specification;

(7) an **antibody** against the polypeptide of (5);

(8) an antagonist which inhibits the activity of the polypeptide of (5);

(9) a method for the **treatment** of an individual having need of a novel **fibronectin binding**

protein A, comprising administering to the individual the polypeptide of (5);

(10) the method of (9) where the polypeptide is administered by providing to the individual DNA encoding the polypeptide and expressing the polypeptide in vivo;

(11) a method for the **treatment** of an individual having need to inhibit novel **fibronectin binding** protein A polypeptide, comprising administering to the individual an amount of (8);

(12) a process for diagnosing a disease related to expression of the polypeptide of (5), comprising determining a nucleic acid sequence encoding the polypeptide;

(13) a diagnostic process comprising analyzing for the presence of the polypeptide of (5) in a sample derived from a host;

(14) a method for identifying compounds which bind to and inhibit an activity of the polypeptide of (5), comprising:

(i) contacting a cell expressing on the surface thereof a binding means for the polypeptide, said binding means being associated with a second component capable of providing a detectable signal in response to the binding of a compound to said binding means, with a compound to be screened under conditions to permit binding to the binding, and

(ii) determining whether the compound binds to and activates or inhibits the binding by detecting the presence or absence of a signal generated from the interaction of the compound with the binding means;

(15) a method for inducing an immunological response in a mammal which comprises ''inoculating the mammal with novel **fibronectin binding** protein A or a fragment or variant thereof, adequate to produce **antibody** to protect said animal from disease'';

(16) a method of inducing immunological response in a mammal which comprises, through gene **therapy**, delivering gene encoding novel **fibronectin binding** protein A fragment or a variant thereof, for expressing novel **fibronectin binding** protein A or a fragment or a variant thereof in vivo in order to induce an immunological response to produce **antibody** to protect said animal from disease, and

(17) an immunological composition comprising a DNA which codes for and expresses a novel **fibronectin binding** protein A polynucleotide or its protein.

USE - The DNA and methods are used for **preventing**, **treating** or diagnosing bacterial **infections**.

Dwg.0/0

L10 ANSWER 17 OF 40 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1998-008801 [01] WPIDS
DOC. NO. NON-CPI: N1998-006938
DOC. NO. CPI: C1998-003127
TITLE: **Antibody** that interacts with **collagen binding** domain of **Staphylococcal cna** gene product - useful to **prevent** bacterial sepsis in animal **infected** with **Staphylococcus aureus**.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): HOOK, M; HOUSE-POMPEO, K; PATTI, J M; STHANAM, N;

SYMERSKY, J; HOEOEK, M
PATENT ASSIGNEE(S): (UABR-N) UAB RES FOUND; (TEXA) UNIV TEXAS A & M SYSTEM
COUNTRY COUNT: 77
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9743314	A2	19971120	(199801)*	EN	143
RW: AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG					
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN YU					
AU 9731260	A	19971205	(199814)		
WO 9743314	A3	19971224	(199817)		
EP 950068	A2	19991020	(199948)	EN	
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
US 6288214	B1	20010911	(200154)		

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 9743314	A2		WO 1997-US8210	19970514
AU 9731260	A		AU 1997-31260	19970514
WO 9743314	A3		WO 1997-US8210	19970514
EP 950068	A2		EP 1997-926514	19970514
			WO 1997-US8210	19970514
US 6288214	B1	Provisional	US 1996-17678P	19960516
			US 1997-856253	19970514

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9731260	A	Based on	WO 9743314
EP 950068	A2	Based on	WO 9743314

PRIORITY APPLN. INFO: US 1996-17678P 19960516; US 1997-856253 19970514
AN 1998-008801 [01] WPIDS
AB WO 9743314 A UPAB: 19980107

An **antibody** (Ab) that interacts with a **collagen binding** domain of a **staphylococcal cna** gene product, i.e. the collagen (Col) binding protein (CBP) epitope M55, is claimed. Also claimed is a protein or peptide composition (I), free from total bacterial cells, comprising a purified **staphylococcal cna** epitope, preferably the **Staphylococcus aureus** CBP epitope M55, M31 or M17, peptide capable of **preventing** bacterial adhesion to collagen.

USE - The Ab, which inhibits the binding of the **cna** gene product to collagen, i.e. the extracellular matrix of a mammalian cell, **prevents** the binding of **staphylococci** to the extracellular matrix. The Ab can also be used to detect CBP, or bacteria, preferably **S.**

aureus, expressing a CBP. The Ab or (I) can be used to **prevent** bacterial sepsis in an animal **infected** with **S. aureus**, inhibit or **treat** **staphylococcal infection** in an animal, **prevent** a **S. aureus** mediated disease or increase the phagocytosis and/or intracellular killing of a **S. aureus** cell by a macrophage cell. (I) can be used to generate an immune response, **prevent S. aureus** colonisation in an animal, **treat** a **staphylococcal infection** in an animal or detect collagen or an Ab specific for a CBP.
Dwg.0/8

L10 ANSWER 18 OF 40 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1997-245115 [22] WPIDS
DOC. NO. NON-CPI: N1997-202142
DOC. NO. CPI: C1997-079463
TITLE: New nucleic acid encoding **fibronectin binding** protein of **Staphylococcus aureus** - useful for vaccination against and **treatment** of bacterial **infections**, optionally by gene **therapy**.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): BURNHAM, M K R; HODGSON, J E
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 20
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9714799	A1	19970424	(199722)*	EN	39
RW: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: JP US					
EP 856056	A1	19980805	(199835)	EN	
R: BE CH DE DK FR GB IT LI NL					
JP 2000500326	W	20000118	(200014)		40
US 6077677	A	20000620	(200035)		

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 9714799	A1		WO 1996-GB2527	19961015
EP 856056	A1		EP 1996-935004	19961015
			WO 1996-GB2527	19961015
JP 2000500326	W		WO 1996-GB2527	19961015
			JP 1997-515603	19961015
US 6077677	A	Div ex	US 1996-732791	19961015
			US 1998-205049	19981204

FILING DETAILS:

PATENT NO	KIND		PATENT NO
EP 856056	A1	Based on	WO 9714799
JP 2000500326	W	Based on	WO 9714799
US 6077677	A	Div ex	US 5858709

PRIORITY APPLN. INFO: GB 1995-21146 19951016
AN 1997-245115 [22] WPIDS
AB WO 9714799 A UPAB: 19970530
New isolated polynucleotide (I) comprises: (a) at least 70% identical to a polynucleotide encoding a 186 amino acid (aa) polypeptide (II) given in the specification; (b) a sequence complementary to (a); or (c) at least 15 sequential bases of (a) or (b). Also new are: (1) vectors containing (I) when (I) is DNA; (2) host cells containing this vector; (3) a polypeptide (IIa) at least 70% identical to aa 1-105 of (II); (4) an **antibody** (Ab) against (IIa); (5) antagonists (III) that inhibit activity of (IIa); and (6) a method for identifying compounds (IV) that bind to, and inhibit activity of, (IIa).

USE - (I) encodes a new **fibronectin-binding** protein B which is useful **therapeutically** or prophylactically as antibacterial agent or vaccine. (III), e.g. Ab, are also useful as antibacterials. (II) and (III) act by inhibiting directly physical interaction between pathogens and mammalian hosts, e.g. they inhibit adhesion of bacteria, preferably Gram positive, to extracellular matrix proteins on indwelling devices, in wounds etc. and block cell invasion mediated by cell surface proteins. They can be used before insertion of an indwelling device; for pre-operative protection, before dental **treatment** or generally as a wound **treatment**. (I) can be used to generate (II) in vivo (gene **therapy**). Ab can also be used to isolate (II) from tissues or diagnostically to detect bacteria that contain (II) while diseases related to expression of (II) can also be diagnosed by detecting DNA encoding it.
Dwg.0/3

L10 ANSWER 19 OF 40 MEDLINE DUPLICATE 4
ACCESSION NUMBER: 1998103374 MEDLINE
DOCUMENT NUMBER: 98103374 PubMed ID: 9440200
TITLE: The immune response to **staphylococcal** antigens in mice depleted of macrophages by Cl2MDP-liposomes.
AUTHOR: Rudnicka W; Wieckowska M; van Rooijen N; Rozalska B
CORPORATE SOURCE: Department of Infectious Biology, Institute of Microbiology and Immunology, University of Lodz, Poland.
SOURCE: ZENTRALBLATT FUR BAKTERIOLOGIE, (1997 Nov) 286 (4) 511-22.
Journal code: 9203851. ISSN: 0934-8840.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199803
ENTRY DATE: Entered STN: 19980312
Last Updated on STN: 19980312
Entered Medline: 19980304

AB To investigate the role of macrophages in the induction of the production of **antibody** to **staphylococcal** antigens, we used Cl2MDP (clodronate) liposomes as a tool for local macrophage depletion. Macrophage depletion caused in mice by intraperitoneal (i.p.) injection of Cl2MDP liposomes was associated with a reduction in the clearance of **Staphylococcus aureus** Cowan 1 bacteria from the tissues of **infected**

animals and with a marked decrease in the bactericidal activity of macrophages escaping from the lethal effect of clodronate. Despite the functional defect of macrophages, the mice **treated** with Cl2MDP liposomes two days before the injection of alpha-toxin (toxoid) or whole heat-killed **S. aureus** Cowan 1 bacteria, demonstrated an enhancement in the production of anti-**staphylococcal** alpha-toxin IgM and anti-**collagen-binding** protein IgG. A similar enhancement of antistaphylococcal **antibody** synthesis was observed in mice after receiving phosphate buffered saline (PBS) encapsulated in liposomes.

L10 ANSWER 20 OF 40 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1996-129397 [13] WPIDS
DOC. NO. NON-CPI: N1996-108728
DOC. NO. CPI: C1996-040396
TITLE: Polypeptide(s) derived from **Staphylococcus aureus fibronectin binding** protein - inhibit binding of bacteria to extracellular matrix proteins, for combatting **infection** at the site of wounds and surgical implants, and in oral hygiene.
DERWENT CLASS: B04 D16 D21 S03
INVENTOR(S): BARNETT, P; CRITCHLEY, I A; DODD, I; MCBAY, D L
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 18
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9604381	A1	19960215	(199613)*	EN	35

RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
W: JP US

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9604381	A1	WO 1995-EP3040	19950728

PRIORITY APPLN. INFO: GB 1994-15900 19940805
AN 1996-129397 [13] WPIDS
AB WO 9604381 A UPAB: 19960329
An isolated D3D4 polypeptide (I) or immunogenically equivalent derivative from a **Staphylococcus aureus fibronectin binding** protein (Fbp) is new. Also claimed are: (1) an isolated nucleic acid encoding (I); (2) a recombinant vector comprising the nucleic acid of (1); (3) a host cell transformed with the vector of (2); (4) a monoclonal **antibody** (**MAb**) or **antibody** fragment that binds to an Fbp, pref. from **S.aureus** J2385 (NCIMB 40532), obtainable using the D3D4 region of an Fbp or a polypeptide that is an immunologically or antigenically equivalent derivative of the D3D4 region as an antigen; (5) a hybridoma cell line that secretes an **antibody** as described above; (6) a method of purifying (I) or an **antibody** fragment as in (4) from a sample comprising immobilising **MAbs** specific for

the polypeptide on a substrate, then contacting the **MAbs** such with the sample such that the polypeptide binds the **MAbs**, and finally separating unbound sample and eluting the polypeptide from the immobilised **MAbs**.

USE - The polypeptides and **MAbs** can be used: (i) to combat **infection** at the site of wounds, surgical implants and other in-dwelling devices such as catheters; (ii) as antiadherent agents in oral hygiene; or (iii) in the manufacture of a medicament for the **prevention** of adhesion of bacteria to extracellular matrix proteins present on in-dwelling devices or in wounds, or of oral pathogens to similar proteins on surfaces in the oral cavity. The **MAbs** can also be used for qualitative or quantitative determination of (I) or a polypeptide as in (4).

Dwg.0/0

L10 ANSWER 21 OF 40 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1996-129396 [13] WPIDS
DOC. NO. NON-CPI: N1996-108727
DOC. NO. CPI: C1996-040395
TITLE: **Staphylococcus aureus** **fibronectin binding** protein D2D3 polypeptide - useful for combatting **infection** at wound sites, surgical implants, etc. and as antiadherent agent in oral hygiene.
DERWENT CLASS: B04 D16 D21 S03
INVENTOR(S): BARNETT, P; CRITCHLEY, I A; DODD, I; MOSSAKOWSKA, D E I
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 65
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9604380	A1	19960215	(199613)*	EN	38
RW: AT BE CH DE DK ES FR GB GR IE IT KE LU MC MW NL OA PT SD SE SZ UG					
W: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TT UA UG US UZ VN					
AU 9532238	A	19960304	(199623)		
ZA 9506481	A	19960828	(199639)		34

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9604380	A1	WO 1995-EP3039	19950728
AU 9532238	A	AU 1995-32238	19950728
ZA 9506481	A	ZA 1995-6481	19950803

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9532238	A	Based on	WO 9604380

PRIORITY APPLN. INFO: GB 1994-15901 19940805

AN 1996-129396 [13] WPIDS
AB WO 9604380 A UPAB: 19960329
An isolated D2D3 polypeptide (A), or a deriv. with equivalent immunological or antigenic activity, from a **Staphylococcus aureus fibronectin binding** protein (Fbp) is new. Also claimed are: (1) isolated nucleic acid (NA) encoding (A), esp. the 237 nucleotide sequence given in the specification; (2) a recombinant vector contg. the NA of (1); (3) a host cell transformed with the vector of (2); (4) a monoclonal **antibody** (**MAb**) which binds to a Fbp obtained by using (A), or an immunologically or antigenically equivalent deriv., as antigen (Ag); fragments of the **MAb** comprising the binding region are included; (5) hybridoma cell line used to produce the **MAbs**; and (6) a method for purifying (A) from a sample by immobilising the **MAbs** on a substrate and contacting the sample with the **MAbs** under conditions conducive to binding, separating unbound sample and eluting (A) from the **MAbs**.

USE - (A) is useful for **preventing** adhesion of (e.g. gram-positive) bacteria, to extracellular matrix proteins (EMPs) on in-dwelling devices, e.g. catheters, or in wounds. (A) also has application for **preventing** oral pathogen binding to EMPs in the oral cavity. The **MAb** are useful for qualitative and quantitative determination of (A) (test kits provided, opt. comprising other **antibodies**).

Dwg.0/0

L10 ANSWER 22 OF 40 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 96:703301 SCISEARCH
THE GENUINE ARTICLE: VH772
TITLE: ADHERENCE OF STREPTOCOCCUS-UBERIS TO BOVINE MAMMARY EPITHELIAL-CELLS AND TO EXTRACELLULAR-MATRIX PROTEINS
AUTHOR: ALMEIDA R A (Reprint); LUTHER D A; KUMAR S J; CALVINHO L F; BRONZE M S; OLIVER S P
CORPORATE SOURCE: UNIV TENNESSEE, INST AGR, DEPT ANIM SCI, KNOXVILLE, TN, 37901 (Reprint)
COUNTRY OF AUTHOR: USA
SOURCE: JOURNAL OF VETERINARY MEDICINE SERIES B-ZENTRALBLATT FUR VETERINARMEDIZIN REIHE B-INFECTIOUS DISEASES AND VETERINARY PUBLIC HEALTH, (SEP 1996) Vol. 43, No. 7, pp. 385-392.
ISSN: 0931-1793.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: AGRI
LANGUAGE: ENGLISH
REFERENCE COUNT: 29

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Adherence of an encapsulated (UT 101) and a non-encapsulated (UT 102) strain of Streptococcus uberis to a bovine mammary epithelial cell line (MAC-T) and to extracellular matrix proteins (ECMP) including fibronectin, collagen and laminin was investigated. S. uberis was co-cultured at 4 degrees C with MAC-T cell monolayers. Both strains of S. uberis adhered to MAC-T cells. However, the nonencapsulated strain of S. uberis adhered better to MAC-T cells than the encapsulated strain. Preincubation of MAC-T cells with lipoteichoic acid (LTA) and/or **treatment** of S. uberis with **antibodies** directed against the carboxyl-terminal half of

type 24 M protein reduced adherence of both strains of S. uberis to MAC-T cells. Adherence to ECMP was measured by incubating bis-carboxyethyl-carboxyfluorescein acetomethyl ester (BCECF-AM) labelled S. uberis in 96-well plates coated with fibronectin, collagen or laminin. Both strains adhered to ECMP, however, the encapsulated strain adhered better to ECMP than the non-encapsulated strain. Results of this investigation demonstrated that both strains of S. uberis evaluated were capable of adhering to bovine mammary epithelial cells and to ECMP. Adherence of S. uberis to mammary epithelium may be an extremely important mechanism in the establishment and progression of bovine intramammary **infections**.

L10 ANSWER 23 OF 40 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 96:515994 SCISEARCH
THE GENUINE ARTICLE: UV307
TITLE: THE ROLE OF PHYSICOCHEMICAL PROPERTIES OF BIOMATERIALS AND BACTERIAL-CELL ADHESION IN-VITRO
AUTHOR: KITANO T (Reprint); YUTANI Y; SHIMAZU A; YANO I; OHASHI H; YAMANO Y
CORPORATE SOURCE: OSAKA CITY UNIV, SCH MED, DEPT ORTHOPAED SURG, ABENO KU, 1-5-7 ASAHIMACHI, OSAKA 545, JAPAN (Reprint); OSAKA CITY UNIV, SCH MED, DEPT BACTERIOL, ABENO KU, OSAKA 545, JAPAN
COUNTRY OF AUTHOR: JAPAN
SOURCE: INTERNATIONAL JOURNAL OF ARTIFICIAL ORGANS, (JUN 1996) Vol. 19, No. 6, pp. 353-358. ISSN: 0391-3988.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: CLIN
LANGUAGE: ENGLISH
REFERENCE COUNT: 16

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB This study was undertaken to investigate the physicochemical aspects of the interaction between the surface of biomaterials and bacterial cell membranes in vitro, aimed at studying the mechanisms of bacterial adhesion to biomaterials. Correlations were made between the number of adherent bacterial cells (**S, aureus**) and each of the calculated components of surface free energy (ie., dispersion, polarity and hydrogen bond) of biomaterials. The effect of **antibodies** to cell-adhesion molecules on bacterial adhesion was also studied using monoclonal **antibodies** to vitronectin receptor fibronectin receptor and CD44. This study indicates the polarity component of surface free energy plays a dominant role in the process of bacterial adhesion at least in vitro. The number of cells adherent to materials decreased to 44-73% of the control value in the presence of **antibodies** tested showing that cell adhesion molecules affect adherence to biomaterials. Moreover, the results suggested that bacterial adhesion was **prevented** by specific blockade of cell adhesion molecule receptors.

L10 ANSWER 24 OF 40 MEDLINE DUPLICATE 5
ACCESSION NUMBER: 96208535 MEDLINE
DOCUMENT NUMBER: 96208535 PubMed ID: 8636931
TITLE: Clinical and molecular aspects of the pathogenesis of **Staphylococcus aureus** bone and joint **infections**.

AUTHOR: Cunningham R; Cockayne A; Humphreys H
CORPORATE SOURCE: Public Health Laboratory and Division of Microbiology, Department of Clinical Laboratory Sciences, University Hospital, Queen's Medical Centre, Nottingham, UK.
SOURCE: JOURNAL OF MEDICAL MICROBIOLOGY, (1996 Mar) 44 (3) 157-64. Ref: 55
Journal code: 0224131. ISSN: 0022-2615.
PUB. COUNTRY: SCOTLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199607
ENTRY DATE: Entered STN: 19960719
Last Updated on STN: 19970203
Entered Medline: 19960709

AB **Staphylococcus aureus** is an important cause of bone and joint **infections**. In recent years, significant changes in the incidence of septic arthritis and osteomyelitis have occurred. Haematogenous osteomyelitis is now less common during childhood, but secondary spread of **infection** to bone or joint from a contiguous site in adults is increasing in incidence. **Infection** introduced at the time of surgery or arising by the haematogenous route is a significant complication of prosthetic joint implantation, and the effect of bone cement on local immune function may be important in this setting. ALthough **S. epidermis** is a more common cause of prosthetic joint **infection, S. aureus** is more difficult to **treat. S. aureus** produces a number of extracellular and cell-associated factors, but it is unclear what role these have as virulence factors in vivo. Furthermore, it is difficult in animal models to simulate transient bacteraemia followed by non-fulminating septic arthritis or osteomyelitis, as occurs in the patient. Surface factors which may be important in pathogenesis include the cell wall (activates complement and stimulates cytokine release), capsular polysaccharide (promotes adhesion to host cell surfaces), collagen receptors and **fibronectin-binding** protein.
Staphylococcal toxic shock syndrome toxin (TSST-1) and the enterotoxins are superantigens and have the potential to suppress plasma cell differentiation and **antibody** responsiveness. TSST-1-positive isolates have been shown to cause more severe joint **infection** in one animal model, but most other studies to date have focused on in-vitro rather than in-vivo effects. There is little evidence supporting a role for coagulase, lipase and the haemolysins in **staphylococcal** bone and joint **infections**. Despite the clinical importance of these **infections**, surprisingly little is known about pathogenesis at the cellular level. Future research should focus on the role of the host immune system in limiting spread of **infection**, and the expression of virulence factors in animal or other models incorporating isogenic mutant strains.

L10 ANSWER 25 OF 40 MEDLINE DUPLICATE 6
ACCESSION NUMBER: 96020668 MEDLINE
DOCUMENT NUMBER: 96020668 PubMed ID: 7476200

TITLE: Characterization of a novel **fibronectin-binding** surface protein in group A streptococci.
AUTHOR: Kreikemeyer B; Talay S R; Chhatwal G S
CORPORATE SOURCE: Department of Microbiology, Technical University/GBF-National Research Centre for Biotechnology, Braunschweig, Germany.
SOURCE: MOLECULAR MICROBIOLOGY, (1995 Jul) 17 (1) 137-45. Journal code: 8712028. ISSN: 0950-382X.
PUB. COUNTRY: ENGLAND: United Kingdom Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-X83303
ENTRY MONTH: 199512
ENTRY DATE: Entered STN: 19960124 Last Updated on STN: 19960124 Entered Medline: 19951218

AB Streptococcus pyogenes interacts with host fibronectin via distinct surface components. One of these components is the Sfbl protein (streptococcal **fibronectin-binding** protein, now specified as class I), an adhesin that represents a protein family with characteristic features. Here we present the complete structure of a novel **fibronectin-binding** protein of S. pyogenes, designated Sfbll, which is distinct from the previously described Sfbl proteins. The sfbll gene originated from a lambda EMBL3 library of chromosomal DNA from group A streptococcal strain A75 and coded for a 113 kDa protein exhibiting features of membrane-anchored surface proteins of Gram-positive cocci. The expression of biologically active fusion proteins allowed the determination of the location of the **fibronectin-binding** domain within the C-terminal part of the protein. It consisted of two and a half repeats which share common motifs with **fibronectin-binding** repeats of other streptococcal and **staphylococcal** proteins. Purified recombinant fusion protein containing this domain competitively inhibited the binding of fibronectin to the parental S. pyogenes strain. Furthermore, polyclonal **antibodies** against the binding domain specifically blocked the Sfbll receptor site on the streptococcal surface. No **cross-reactivity** could be detected between anti-Sfbll **antibodies** and the sfbl gene product, and vice versa, indicating that the two proteins do not share common immunogenic epitopes. Southern hybridization experiments performed with specific sfbll gene probes revealed the presence of the sfbll gene in more than 55% of 93 streptococcal isolates tested. The majority of the strains also harboured the sfbl gene, and 86% carried at least one of the two sfb genes.

L10 ANSWER 26 OF 40 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC. DUPLICATE 7
ACCESSION NUMBER: 1995:535113 BIOSIS
DOCUMENT NUMBER: PREV199598549413
TITLE: Opsonization of **Staphylococcus aureus** with a **fibronectin-binding** protein antiserum induces protection in mice.
AUTHOR(S): Mamo, Wubshet (1); Jonsson, Per; Muller, Hans-Peter
CORPORATE SOURCE: (1) Astra Arcus, Pre clinical R and D, Section

Immunology, All, S-151 85 Sodertalje Sweden
SOURCE: Microbial Pathogenesis, (1995) Vol. 19, No. 1, pp. 49-55.
ISSN: 0882-4010.
DOCUMENT TYPE: Article
LANGUAGE: English
AB The virulence of **Staphylococcus aureus** opsonized with an antiserum raised against a recombinant **fibronectin-binding** protein (**FnBP**) was compared with homologous, non-opsonized bacteria (**treated** with pre-immune serum) in a mouse mastitis model. Virulence was evaluated comparing the number of bacteria recovered from the **infected** mammary glands and according to the type of lesions produced. The average number of bacteria recovered from the mammary glands inoculated with **S. aureus** opsonized with **FnBP**-antiserum was significantly lower (up to 10-7 cfu/ml) than the average number of bacteria recovered after inoculation with non-opsonized bacteria (up to 10-10 cfu/ml). Gross examination of **infected** mammary glands showed that 65% of glands **infected** with opsonized bacteria developed low grade/or had no pathological changes, and 35% developed severe mastitis whereas, 75% of glands inoculated with non-opsonized bacteria developed severe mastitis and 25% low grade mastitis or had no pathological changes. According to the histopathological examination eight out of 10 glands inoculated with opsonized bacteria produced disseminated focal necrosis or had no pathological changes and two glands produced non reactive necrotic lesions. In contrast, only three out of 10 glands inoculated with non-opsonized homologous bacteria developed disseminated focal necrosis and had no pathological changes while seven glands developed total necrosis.

L10 ANSWER 27 OF 40 MEDLINE
ACCESSION NUMBER: 95066330 MEDLINE
DOCUMENT NUMBER: 95066330 PubMed ID: 7975852
TITLE: Vaccination against **Staphylococcus aureus** mastitis: immunological response of mice vaccinated with **fibronectin-binding** protein (**FnBP**-A) to challenge with **S. aureus**.
AUTHOR: Mamo W; Jonsson P; Flock J I; Lindberg M; Muller H P; Wadstrom T; Nelson L
CORPORATE SOURCE: Swedish University of Agricultural Sciences, Department of Veterinary Microbiology, Uppsala.
SOURCE: VACCINE, (1994 Aug) 12 (11) 988-92.
Journal code: 8406899. ISSN: 0264-410X.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199412
ENTRY DATE: Entered STN: 19950110
Last Updated on STN: 19950110
Entered Medline: 19941216
AB Mice were immunized with fusion proteins encompassing the **fibronectin-binding** domain of a **staphylococcal fibronectin-binding** protein (**FnBP**-A). A specific **antibody** response against the **fibronectin-binding** part of the

fusion proteins was detected in the serum of all vaccinated animals. The protective potential of these vaccinations was evaluated in a mouse mastitis model, using **Staphylococcus aureus** , strain SA113, for challenge. The mice vaccinated with **FnBP** fusion proteins showed a decreased number of bacteria recovered from the mammary glands and significantly reduced cases of severe mastitis. Histopathological examination of tissue from challenged glands of vaccinated mice revealed either no pathological reactions or disseminated inflammatory reactions with focal necrosis whereas four of six examined tissues from challenged glands of non-vaccinated animals showed total necrosis. A combination of **FnBP** fusion protein with **staphylococcal** alpha-toxoid did not increase the efficacy of the vaccination and animals vaccinated with alpha-toxoid alone were as sensitive to challenge as those from the non-vaccinated control group. Thus vaccination of mice with recombinant **FnBP** resulted in significant protection against challenge with **S. aureus.**

L10 ANSWER 28 OF 40 MEDLINE DUPLICATE 8
ACCESSION NUMBER: 95245026 MEDLINE
DOCUMENT NUMBER: 95245026 PubMed ID: 7727897
TITLE: Role of **antibodies** against fibronectin-, **collagen-binding** proteins and alphatoxin in experimental **Staphylococcus aureus** peritonitis and septicaemia in neutropenic mice.
AUTHOR: Rozalska B; Wadstrom T
CORPORATE SOURCE: Department of Medical Microbiology, University of Lund, Sweden.
SOURCE: ZENTRALBLATT FUR BAKTERIOLOGIE, (1994 Nov) 281 (4) 495-501.
Journal code: 9203851. ISSN: 0934-8840.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199506
ENTRY DATE: Entered STN: 19950608
Last Updated on STN: 20000303
Entered Medline: 19950601

AB We have investigated the protective role of hyperimmune rabbit IgG against two surface structures of **Staphylococcus aureus**, i.e. fibronectin-, and **collagen-binding** proteins as well as alpha-toxin in experimental peritonitis and septicaemia in neutropenic mice pretreated with cyclophosphamide. This **treatment** markedly decreased clearance of bacteria from mouse organs. With combined immunotherapy given passively bacteria were eradicated more efficiently for all animals sampled, comparative to controls.

L10 ANSWER 29 OF 40 MEDLINE
ACCESSION NUMBER: 95020795 MEDLINE
DOCUMENT NUMBER: 95020795 PubMed ID: 7935060
TITLE: Immunological recognition of **fibronectin-binding** proteins of **Staphylococcus aureus** and **Staphylococcus** capitis, strain LK 499.

AUTHOR: Sakata N; Rozalska B; Wadstrom T
CORPORATE SOURCE: Department of Medical Microbiology, University of Lund, Sweden.
SOURCE: MICROBIOLOGY AND IMMUNOLOGY, (1994) 38 (5) 359-66. Journal code: 7703966. ISSN: 0385-5600.
PUB. COUNTRY: Japan
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199410
ENTRY DATE: Entered STN: 19941222
Last Updated on STN: 19941222
Entered Medline: 19941028

AB **Antibodies** to **fibronectin-binding** proteins (**FnBPs**) of **Staphylococcus aureus**, including binding domain of **FnBPA**, the D region, or the A-C regions of **FnBPB** were produced in rabbits and mice. These **antibodies** were used to characterize cell-associated **FnBPs** of **S. aureus** strain Cowan I, **S. aureus** strain U320 and a coagulase-negative **Staphylococcus** capitis strain LK499 as well as extracellular **FnBPs** in culture supernatants of the strain U320. **FnBPs** of **S. aureus** were predominantly **FnBPA**, while **FnBPB** was hardly detected on the cells or in culture supernatant of these **S. aureus** strains. Moreover, S. capitis strain LK499 possessed different **FnBP**(s) compared to **S. aureus** because the **antibodies** to **S. aureus FnBPs** did not recognize **FnBP**(s) on S. capitis.

L10 ANSWER 30 OF 40 MEDLINE DUPLICATE 9
ACCESSION NUMBER: 95231263 MEDLINE
DOCUMENT NUMBER: 95231263 PubMed ID: 7715422
TITLE: The effect of growth temperature on **Staphylococcus aureus** binding to type I collagen.
AUTHOR: Clark B A; Rissing J P; Buxton T B; Best N H; Best G K
CORPORATE SOURCE: Department of Immunology and Microbiology, Medical College of Georgia, Augusta 30912, USA.
SOURCE: MICROBIAL PATHOGENESIS, (1994 Oct) 17 (4) 239-51. Journal code: 8606191. ISSN: 0882-4010.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199505
ENTRY DATE: Entered STN: 19950524
Last Updated on STN: 19950524
Entered Medline: 19950518

AB Many strains of **Staphylococcus aureus** produce a **collagen-binding** surface protein that could enable these strains to colonize tissues such as bone. Previous studies indicated that the expression of the collagen receptor varies with growth conditions. We report here that the growth temperature influences the ability of some **S. aureus** strains to produce this receptor. **S. aureus** isolates

from human, osteomyelitic bone were grown at 37 degrees C and 42 degrees C and tested for agglutination of collagen-coated latex beads. Binding by 42 degrees C grown cells was significantly reduced in five of the seven isolates studied, including a complete loss of **collagen binding** in three of these isolates. In an 125I-**collagen-binding** assay, the binding ability of one of these isolates, strain #16, was 20-fold lower if grown at 42 degrees C. Reduced **collagen binding** by this isolate could be demonstrated after only two cell divisions at 42 degrees C and the cells regained the ability to bind collagen when shifted back to 37 degrees C. Sodium dodecyl sulfate (SDS)-PAGE confirmed the presence of proteins at 117 kDa in strain #16 and 135 kDa in SMH which were absent following growth at 42 degrees C. Chicken IgG, specific for the 117 kDa protein, was found to react in immunoblot assays with these proteins as well as a protein of 135 kDa extracted from **S. aureus** Cowan 1. The **antibody** did not react with proteins extracted from non-binding strains. Strains #15 and #21, **collagen-binders** at both 37 degrees C and 42 degrees C, produced immunoreactive proteins at 110 and 135 kDa, respectively, in lysates from cells grown at both temperatures. **Antibody** against a recombinant form of a previously characterized collagen receptor was used to confirm **cross-reactivity** with these novel collagen receptors. These data suggest that the ability to produce the collagen receptor is temperature sensitive in some **S. aureus** strains associated with osteomyelitis. It is proposed that a better understanding of the environmental effects on collagen receptor production could enhance our understanding of **staphylococcal** infections in bone and joints.

L10 ANSWER 31 OF 40 MEDLINE DUPLICATE 10
ACCESSION NUMBER: 94220311 MEDLINE
DOCUMENT NUMBER: 94220311 PubMed ID: 8167006
TITLE: **Staphylococcus aureus fibronectin-binding** proteins (**FnBPs**). Identification of antigenic epitopes using polyclonal **antibodies.**
AUTHOR: Rozalska B; Sakata N; Wadstrom T
CORPORATE SOURCE: Department of Medical Microbiology, University of Lund, Sweden.
SOURCE: APMIS, (1994 Feb) 102 (2) 112-8.
Journal code: 8803400. ISSN: 0903-4641.
PUB. COUNTRY: Denmark
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199406
ENTRY DATE: Entered STN: 19940613
Last Updated on STN: 19940613
Entered Medline: 19940602

AB Polyclonal **antibodies** against recombinant **fibronectin-binding** proteins (gal-**FnBP** A and ZZ-**FnBP** B) of **Staphylococcus aureus** were analyzed by both solid-phase and solution-phase methods. These **antibodies** were found to bind homologous antigen and to **cross-react** with heterologous antigen. It was also found that **antibodies** recognize native **FnBP** on

the cell surface. It has been shown, by the inhibition assay, that the majority of **antibodies** recognize a **fibronectin -binding** D1-D2 sequence of **FnBP** A. Anti-**FnBP** A Fab fails to bind the D3 sequence, though this peptide used in a solution inhibits binding of fibronectin to immobilized **FnBP** A, similarly to D1 and D2 peptides. Since the anti-**FnBP** A **antibodies** are able to block **fibronectin binding** to **staphylococci** by about 50%, it is reasonable to assume that the bacterial receptor has additional binding sites outside the D domain.

L10 ANSWER 32 OF 40 MEDLINE
ACCESSION NUMBER: 95179076 MEDLINE
DOCUMENT NUMBER: 95179076 PubMed ID: 7874078
TITLE: Vaccination with **Staphylococcus aureus** fibrinogen binding proteins (FgBPs) reduces colonisation of **S. aureus** in a mouse mastitis model.
AUTHOR: Mamo W; Boden M; Flock J I
CORPORATE SOURCE: Swedish University of Agricultural Sciences, Department of Veterinary Microbiology, Uppsala.
SOURCE: FEMS IMMUNOLOGY AND MEDICAL MICROBIOLOGY, (1994 Nov) 10 (1) 47-53.
Journal code: 9315554. ISSN: 0928-8244.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199504
ENTRY DATE: Entered STN: 19950419
Last Updated on STN: 19970203
Entered Medline: 19950405

AB A mouse mastitis model was used to study the effect of vaccination with fibrinogen binding proteins and **collagen binding** protein from **Staphylococcus aureus** against challenge **infection** with **S. aureus**. The mice vaccinated with fibrinogen binding proteins showed reduced rates of mastitis compared with controls. Gross examination of challenged mammary glands of mice showed that the glands of mice immunized with fibrinogen binding proteins developed mild intramammary **infection** or had no pathological changes compared with glands from control mice. Histopathological examination of tissue sections from challenged glands showed that most glands from mice vaccinated with fibrinogen binding protein developed disseminated necrosis or had no pathological changes. A significantly reduced number of bacteria could be recovered in the glands from mice immunized with fibrinogen binding proteins as compared with controls. In a similar study, immunization of mice with **collagen binding** protein did not induce protection against challenge **infection** with **S. aureus**.

L10 ANSWER 33 OF 40 MEDLINE
ACCESSION NUMBER: 93248544 MEDLINE
DOCUMENT NUMBER: 93248544 PubMed ID: 8484103
TITLE: Protective opsonic activity of **antibodies** against **fibronectin-binding** proteins (**FnBPs**) of **Staphylococcus**

aureus.
AUTHOR: Rozalska B; Wadstrom T
CORPORATE SOURCE: Department of Medical Microbiology, University of Lund, Sweden.
SOURCE: SCANDINAVIAN JOURNAL OF IMMUNOLOGY, (1993 May) 37 (5) 575-80.
Journal code: 0323767. ISSN: 0300-9475.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199305
ENTRY DATE: Entered STN: 19930618
Last Updated on STN: 19930618
Entered Medline: 19930528

AB In this report, opsonic activity of hyperimmune rabbit IgG against **fibronectin-binding** proteins (gal-**FnBP** A and ZZ-**FnBP** B) of **Staphylococcus aureus** is described. Moreover, the action of IgG purified from serum of rabbits immunized with 'combined vaccine' (**fibronectin-binding** protein A+**collagen-binding** protein+alpha-toxoid) is shown. The opsonic activity has been studied in an in vitro phagocytosis assay as well as in vivo. Mice which had been **infected** intraperitoneally with **S**. **aureus** strain Cowan 1 pretreated (opsonized in vitro) with specific anti-**FnBPs** IgG were able to eliminate the **staphylococci** from the peritoneal cavity and liver more rapidly than controls. Also, clearance from the bloodstream of intravenously injected **S**. **aureus** Cowan 1 as well as **S**. **aureus** U320, opsonized with IgG anti-**FnBPs** or anti-**FnBP**+CnBP+alpha-toxoid, was more effective than observed in control groups. In other in vivo experiments it was shown that mice passively immunized with hyperimmune IgG anti-**FnBP** (one or two doses, intravenously) before challenge with **S**. **aureus** Cowan I eliminated the bacteria better than controls injected only with preimmune IgG.

L10 ANSWER 34 OF 40 MEDLINE DUPLICATE 11
ACCESSION NUMBER: 94097184 MEDLINE
DOCUMENT NUMBER: 94097184 PubMed ID: 8271922
TITLE: Immunization with **fibronectin binding** protein from **Staphylococcus aureus** protects against experimental endocarditis in rats.
AUTHOR: Schennings T; Heimdahl A; Coster K; Flock J I
CORPORATE SOURCE: Center for Biotechnology, Karolinska Institute, Huddinge, Sweden.
SOURCE: MICROBIAL PATHOGENESIS, (1993 Sep) 15 (3) 227-36.
Journal code: 8606191. ISSN: 0882-4010.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199402
ENTRY DATE: Entered STN: 19940215
Last Updated on STN: 19970203
Entered Medline: 19940201

AB Rats were immunized with a fusion protein (gal-**FnBP**) encompassing beta-galactosidase and the domains of **fibronectin binding** protein from **Staphylococcus aureus** responsible for binding to fibronectin. **Antibodies** against gal-**FnBP** were shown to block the binding of **S. aureus** to immobilized fibronectin in vitro. Endocarditis in immunized and non-immunized control rats was induced by catheterization via the right carotid artery, resulting in damaged aortic heart valves which became covered by fibrinogen and fibronectin. The catheterized rats were then **infected** intravenously with 1 x 10(5) cells of **S. aureus**. The number of bacteria associated with aortic valves was determined 1 1/2 days after the challenge **infection** and a significant difference in bacterial numbers between immunized and non-immunized groups was then observed ($p < 0.05$).

L10 ANSWER 35 OF 40 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 92:507934 SCISEARCH
THE GENUINE ARTICLE: JJ861
TITLE: IDENTIFICATION OF A BETA-1-INTEGRIN ON MYCOBACTERIUM-AVIUM-MYCOBACTERIUM-INTRACELLULARE
AUTHOR: RAO S P; GEHLSEN K R; CATANZARO A (Reprint)
CORPORATE SOURCE: UNIV CALIF SAN DIEGO, DEPT MED, DIV PULM & CRIT CARE, SAN DIEGO, CA, 92103; CALIF INST BIOL RES, LA JOLLA, CA, 92037
COUNTRY OF AUTHOR: USA
SOURCE: INFECTION AND IMMUNITY, (SEP 1992) Vol. 60, No. 9, pp. 3652-3657.
ISSN: 0019-9567.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: ENGLISH
REFERENCE COUNT: 41

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Mycobacterium avium-Mycobacterium intracellulare (MAI) is an opportunistic intracellular pathogen responsible for the highest incidence of disseminated bacterial **infection** in patients with AIDS. **Treatment** of the **infection** is extremely difficult and has shown limited efficacy. A critical event in the initiation of a variety of bacterial **infections** involves the adherence of bacteria to host cell surfaces. In the present study, we have shown that MAI organisms bind avidly to extracellular matrix proteins such as laminin, collagen I, and fibronectin in an in vitro attachment assay. Immunoblot analysis of a sonicate of MAI with polyclonal **antibodies** against different integrin receptors indicated that the sonicate **cross-reacts** with polyclonal **antibodies** against a human laminin-binding integrin, alpha-3-beta-1, and a human **fibronectin-binding** integrin, alpha-5-beta-1, although it is reactive with only the beta-1 subunit in the case of both antisera. **Antibodies** against the alpha-3-beta-1 and alpha-5-beta-1 integrins specifically inhibited the binding of MAI to laminin, collagen I, and fibronectin by 70 to 97%, depending on the ligand, suggesting that the attachment of MAI to these extracellular matrix proteins may be mediated by a beta-1 integrin. Furthermore, the attachment of MAI to laminin, collagen I, and fibronectin was found to be cation dependent. MAI may use this

and other beta-1-containing integrins to adhere and penetrate through basement membrane structures that underlie host cell linings. An understanding of the mechanism of attachment and a definition of the adhesive molecules on the surface of MAI may open up new approaches to the **prevention** of serious **infection** caused by this organism.

L10 ANSWER 36 OF 40 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1993:118220 BIOSIS
DOCUMENT NUMBER: PREV199395062320
TITLE: Immunological response to a **Staphylococcus aureus fibronectin-binding** protein.
AUTHOR(S): Ciborowski, P. (1); Flock, J.-I.; Wadstrom, T.
CORPORATE SOURCE: (1) Natl. Inst. Hygiene, Dep. Bacteriol., Chocimska 24, 00-791 Warsaw Poland
SOURCE: Journal of Medical Microbiology, (1992) Vol. 37, No. 6, pp. 376-381.
ISSN: 0022-2615.
DOCUMENT TYPE: Article
LANGUAGE: English
AB A protein (gal-**FnBP**), constructed by fusion of the genes encoding beta-galactosidase of Escherichia coli and the binding domains of **fibronectin-binding** protein (**FnBP**) of **Staphylococcus aureus** was used. **FnBP** is a surface protein responsible for attachment of bacteria to extracellular matrix of various host tissues. Gal-**FnBP** is more stable and can be produced in large quantities than native **FnBP**. The binding specificity of this fusion protein was established in a Western blot analysis. **Treatment** of gal-**FnBP** with formalin inactivated the binding capacity of the protein but immunogenicity was retained. Immunisation of mice with formalin-**treated** gal-**FnBP** resulted in high **antibody** titres against the **fibronectin-binding** part of this fusion protein. These **antibodies** were measured by their ability to block the specific binding of fibronectin to gal-**FnBP** in a blocking assay. Sera raised against formalin-**treated** gal-**FnBP** on non-**treated** gal-**FnBP** blocked this binding to 40 and 25% respectively, thereby indicating the usefulness of gal-**FnBP** as a vaccine component.

L10 ANSWER 37 OF 40 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1991-237481 [32] WPIDS
DOC. NO. CPI: C1991-103308
TITLE: New fibronectin receptor polysaccharide - from **Staphylococcus aureus**, derived monoclonal **antibodies** for **treating** or **preventing infection**.
DERWENT CLASS: B04 D16
INVENTOR(S): PROCTOR, R A
PATENT ASSIGNEE(S): (WISC) WISCONSIN ALUMNI RES FOUND
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG

US 5034515 A 19910723 (199132)*

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5034515	A	US 1987-99756	19870922

PRIORITY APPLN. INFO: US 1987-99756 19870922
AN 1991-237481 [32] WPIDS
AB US 5034515 A UPAB: 19930928
New fibronectin receptor polysaccharide (I) from Staph. aureus has the following properties (1) contains less than 2% protein and no lipid; (2) contains aminohexoses but no uronic acids; (3) has mol. wt. about 60000; (4) competes with intact organisms for **fibronectin binding**; (5) **cross-reacts** with monoclonal **antibody** (MAb1) directed against Type 8 capsular material of **S. aureus**.

Intact **S. aureus** cells are sonicated to remove (I) expressed on the cell surface, without rupturing or killing the cells. Bacterial material is removed by centrifugation and the supernatant subjected to (a) DEAE ion-exchange **treatment** and (b) fibronectin affinity chromatography to isolate (I).

USE/ADVANTAGE - (I) is an antigen useful in immunoassays (ELISA) for detecting anti-(I) **antibodies**. It can also be used to raise monoclonal **antibodies** (MAb2) which can be used (a) to detect (I) in similar tests, and (b) to protect against (passive immunisation), and to **treat, infections** by **S. aureus** (partic. in high risks patients, e.g. those undergoing surgery or dialysis, or those with burns).
0/0

L10 ANSWER 38 OF 40 MEDLINE
ACCESSION NUMBER: 90385474 MEDLINE
DOCUMENT NUMBER: 90385474 PubMed ID: 2205950
TITLE: Proteolytic and immunologic comparison of human and bovine von Willebrand factor.
AUTHOR: Bakhshi M R; Kirby E P
CORPORATE SOURCE: Department of Biochemistry, Temple University, Philadelphia, PA 19140.
CONTRACT NUMBER: HL27993 (NHLBI)
SOURCE: THROMBOSIS AND HAEMOSTASIS, (1990 Jun 28) 63 (3) 517-23.
Journal code: 7608063. ISSN: 0340-6245.
PUB. COUNTRY: GERMANY, WEST: Germany, Federal Republic of
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199010
ENTRY DATE: Entered STN: 19901122
Last Updated on STN: 19901122
Entered Medline: 19901019
AB The structures of bovine and human vWF were compared by proteolysis with **Staphylococcus aureus** V8 protease and rattlesnake venom Protease I. Fragments were analyzed for chain composition, heparin binding, **collagen binding**,

platelet agglutinating activity and recognition by a panel of monoclonal **antibodies** which reacted with both bovine and human vWF. Similar large fragments from the C-terminal domain of vWF were seen in each case. The N-terminal domain resulting from cleavage of bovine vWF was much smaller than that seen upon digestion of human vWF with V8 protease. Protease I destroyed the heparin binding domain in human vWF. Bovine vWF was much less sensitive to proteolysis than was human vWF.

L10 ANSWER 39 OF 40 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1988-347978 [49] WPIDS
DOC. NO. CPI: C1988-153811
TITLE: Hybrid DNA encoding **Staphylococcus aureus fibronectin binding** protein - useful for immunisation and topical application to **prevent staphylococcal infections.**
DERWENT CLASS: B04 D16
INVENTOR(S): FROMAN, G; HOOK, M; LINDBERG, K M; SIGNAS, L C; WADSTROM, T M; FROEMAN, G; HOEOEK, M; LINDBERG, M K; SIGNAES, L C; WADSTROEM, T M; HOEOK, M
PATENT ASSIGNEE(S): (ALFA) ALFA LAVAL AGRIC INT AB; (FROE-I) FROEMAN G; (HOEO-I) HOEOEK M; (LIND-I) LINDBERG M K; (SIGN-I) SIGNAES L C; (WADS-I) WADSTROEM T M; (ALFA) ALFA LAVAL AB; (HOEO-I) HOEOK M
COUNTRY COUNT: 21
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 294349	A	19881207	(198849)*	EN	23
R: AT BE CH DE ES FR GB GR IT LI LU NL SE					
AU 8816915	A	19881201	(198904)		
SE 8702272	A	19881202	(198905)		
NO 8802380	A	19881227	(198906)		8
DK 8802951	A	19881202	(198908)		
FI 8802562	A	19881202	(198911)		
JP 02154689	A	19900614	(199030)		
US 5320951	A	19940614	(199423)		19
EP 294349	B1	19950329	(199517)	EN	26
R: AT BE CH DE ES FR GB GR IT LI LU NL SE					
DE 3853446	G	19950504	(199523)		
NO 177570	B	19950703	(199532)		
ES 2072868	T3	19950801	(199537)		
FI 9503525	A	19950721	(199542)		
US 5571514	A	19961105	(199650)		24
IE 74949	B	19970813	(199745)		
US 5770702	A	19980623	(199832)		
FI 101542	B1	19980715	(199835)		
FI 101552	B1	19980715	(199835)		
JP 2971067	B2	19991102	(199951)		19
CA 1340906	C	20000222	(200029)	EN	

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 294349	A	EP 1988-850188	19880530

NO 8802380	A		NO 1988-2380	19880531
JP 02154689	A		JP 1988-132890	19880601
US 5320951	A	Cont of	US 1988-201028	19880601
		Cont of	US 1991-746087	19910812
			US 1993-7817	19930122
EP 294349	B1		EP 1988-850188	19880530
DE 3853446	G		DE 1988-3853446	19880530
			EP 1988-850188	19880530
NO 177570	B		NO 1988-2380	19880531
ES 2072868	T3		EP 1988-850188	19880530
FI 9503525	A	Div ex	FI 1988-2562	19880531
			FI 1995-3525	19950721
US 5571514	A	Cont of	US 1988-201028	19880601
		Div ex	US 1993-7817	19930122
			US 1994-259000	19940613
IE 74949	B		IE 1988-1592	19880526
US 5770702	A	Cont of	US 1988-201028	19880601
		Div ex	US 1993-7817	19930122
		Div ex	US 1994-259000	19940613
			US 1996-729767	19961007
FI 101542	B1	Div ex	FI 1988-2562	19880531
			FI 1995-3525	19950721
FI 101552	B1		FI 1988-2562	19880531
JP 2971067	B2		JP 1988-132890	19880601
CA 1340906	C		CA 1988-568194	19880531

FILING DETAILS:

PATENT NO	KIND		PATENT NO
DE 3853446	G	Based on	EP 294349
NO 177570	B	Previous Publ.	NO 8802380
ES 2072868	T3	Based on	EP 294349
US 5571514	A	Div ex	US 5320951
US 5770702	A	Div ex	US 5320951
		Div ex	US 5571514
FI 101542	B1	Previous Publ.	FI 9503525
FI 101552	B1	Previous Publ.	FI 8802562
JP 2971067	B2	Previous Publ.	JP 02154689

PRIORITY APPLN. INFO: SE 1987-2272 19870601

AN 1988-347978 [49] WPIDS

AB EP 294349 A UPAB: 19950727

New hybrid DNA (I) includes a sequence from **Staphylococcus aureus** which encodes a protein or peptides (A) having **fibronectin binding** ability.

Also new are (1) plasmids or phages contg. an (A)-coding sequence; (2) microorganisms transformed with (I) and (3) (A) contg. at least one of the sequences: Gly-Gln-Asn-A1-Gly-Asn-Gln-Ser-Phe-Glu-Asp- Thr-Glu-A2-Asp-Lys-Pro-Lys- Tyr-Glu-A3-Gly-Gly-Asn-Ile-A4-Asp-Ile-Asp-Phe-Asp- Ser-Val-Pro-A5-Ile-His or Gly-Phe-Asn-Lys-His-Thr- Glu-Ile-Ile-Glu-Glu-Asp-Thr-Asn-Lys-Asp-Lys- Pro- Ser-Tyr-Gln-Phe-Gly-Gly-His-Asn-Ser-Val-Asp-Phe-Glu -Glu-Asp-Thr-Leu-Pro-Lys-Val (A1=Ser; A2=Glu; A3=Gln; A4=Val and A5=Gln; or A1=Lys; A2=Lys; A3=His; A4 =Ile and A5=His).

USE - (A) are useful (1) for immunisation, esp. to protect ruminants against **Staphylococcal** mastitis, pref. when administered at 0.5-5 microg/kg, using 3 doses at 1-3 week

intervals, and (2) for topical application to **prevent infection** of wounds, pref. using an isotonic saline soln. of concn. 25-250 microg/mg. Both (A), when immobilised on a carrier, and (I) can also be used for diagnosing **Staphylococcal infections.**
0/9
Dwg.0/9

ABEQ US 5320951 A UPAB: 19940727
Hybrid-DNA molecule comprises a nucleotide sequence of **S. aureus** encoding a protein or polypeptide with **fibronectin-binding** activity, having the sequence given in the specification.
Also claimed are a microorganism transformed by the molecule, a plasmid or phage contg. the molecule, and a method for producing the protein.
USE - For producing peptides with **fibronectin-binding** activity.
Dwg.0/9

ABEQ EP 294349 B UPAB: 19950508
The use of a polypeptide consisting of at least one of the amino acid sequences Gly Gln Asn Ser Gly Asn Gln Ser Phe Glu Glu Asp Thr Glu Glu Asp Lys Pro Lys Tyr Glu Gln Gly Gly Asn Ile Val Asp Ile Asp Phe Asp Ser Val Pro Gln Ile His and/or Gly Gln Lys Gly Asn Gln Ser Phe Glu Glu Asp Thr Glu Lys Asp Lys Pro Lys Tyr Glu His Gly Gly Asn Ile Ile Asp Ile Asp Phe Asp Ser Val Pro His Ile His and/or Gly Phe Asn Lys His Thr Gly Ile Ile Gly Glu Asp Thr Asn Lys Asp Lys Pro Ser Tyr Gln Phe Gly Gly His Asn Ser Val Asp. Phe Glu Glu Asp Thr Leu Pro Lys Val in the manufacture of pharmaceutical compositions **preventing** adherence of Staph.aureus to fibronectin containing tissue.
Dwg.0/9

ABEQ US 5571514 A UPAB: 19961211
A vaccine composition comprising an effective amount of a protein encoded by a hybrid DNA molecule comprising a nucleotide sequence from **Staphylococcus aureus** encoding an isolated protein having **fibronectin binding** activity, whereby said protein induces immunization by forming **antibodies** in a mammal against **Staphylococcus aureus** to provide protection for clinical symptoms to **Staphylococcus aureus** wherein the hybrid DNA molecule comprises one or more of the nucleotide sequences selected from the group consisting of nucleotides 1-114, 115-228 and 229-342 of a 342 base sequence given in th specification, and a pharmaceutical acceptable vaccine carrier therefor.
Dwg.0/9

L10 ANSWER 40 OF 40 MEDLINE DUPLICATE 12
ACCESSION NUMBER: 88006408 MEDLINE
DOCUMENT NUMBER: 88006408 PubMed ID: 3115897
TITLE: Interaction of soluble fibronectin with group B streptococci.
AUTHOR: Butler K M; Baker C J; Edwards M S
CORPORATE SOURCE: Department of Pediatrics, Baylor College of Medicine, Houston, Texas 77030.
CONTRACT NUMBER: AI 19800 (NIAID)
SOURCE: INFECTION AND IMMUNITY, (1987 Oct) 55 (10) 2404-8. Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States

Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198710
ENTRY DATE: Entered STN: 19900305
Last Updated on STN: 19970203
Entered Medline: 19871028

AB **Fibronectin binds** to a variety of bacterial species, and we hypothesized that differential **fibronectin binding** might influence the invasive potential of group B streptococci (GBS). Human plasma fibronectin purified by a standard two-step chromatographic procedure was radiolabeled with 3H. Fifty GBS strains (invasive, colonizing, or bovine) representing serotypes Ia (10 strains), Ib (6 strains), Ia/c (6 strains), II (10 strains), III (11 strains), IV (1 strain), and nontypable (6 strains) were tested. No source or serotype variability was detected among GBS strains, and binding was uniformly less than 1.5% of available fibronectin. Lack of detectable binding occurred at both the log and stationary growth phases and persisted despite **treatment** with trypsin or neuraminidase or opsonization with immunoglobulin G containing high levels (greater than 40 micrograms/ml) of **antibody** specific for the Ia, II, or III GBS capsular polysaccharides. Incubation with GBS did not inhibit **fibronectin binding** to the Cowan 1 strain of **Staphylococcus aureus**. Strain COH 31-15, an isogenic, type III, capsule-deficient mutant of COH 31r/s, also failed to bind fibronectin. In contrast to other streptococci, GBS do not have readily detectable receptors for soluble fibronectin as part of their surface structures. If present, binding sites for soluble fibronectin are deep to surface structures, obscured from host defense systems, or require the presence of other factors to facilitate their recognition of fibronectin. The uniform ability of GBS to resist binding to soluble fibronectin could be a significant virulence factor in the pathogenesis of invasive **infections** of infants.

(FILE 'MEDLINE' ENTERED AT 11:07:37 ON 08 JUL 2002)

L11	97906	SEA	FILE=MEDLINE ABB=ON	PLU=ON	"PROTEIN BINDING"/CT
L12	17314	SEA	FILE=MEDLINE ABB=ON	PLU=ON	STAPHYLOCOCCUS/CT
L13	172	SEA	FILE=MEDLINE ABB=ON	PLU=ON	L11 AND L12
L14	58220	SEA	FILE=MEDLINE ABB=ON	PLU=ON	ANTIBODIES/CT
L15	4	SEA	FILE=MEDLINE ABB=ON	PLU=ON	L13 AND L14

L15 ANSWER 1 OF 4 MEDLINE
AN 74173376 MEDLINE
TI Antibodies to the unfolded form of a helix-rich region in staphylococcal nuclease.
AU Furie B; Schechter A N; Sachs D H; Anfinsen C B
SO BIOCHEMISTRY, (1974 Apr 9) 13 (8) 1561-6.
Journal code: 0370623. ISSN: 0006-2960.

L15 ANSWER 2 OF 4 MEDLINE
AN 71209697 MEDLINE
TI Studies on specificity and binding properties of the blood group A reactive hemagglutinin from Helix pomatia.
AU Hammarstrom S; Kabat E A
SO BIOCHEMISTRY, (1971 Apr 27) 10 (9) 1684-92.
Journal code: 0370623. ISSN: 0006-2960.

L15 ANSWER 3 OF 4 MEDLINE
AN 70211968 MEDLINE
TI Nuclear magnetic resonance spectroscopy of amino acids, peptides, and proteins.
AU Roberts G C; Jardetzky O
SO ADVANCES IN PROTEIN CHEMISTRY, (1970) 24 447-545. Ref: 231
Journal code: 0116732. ISSN: 0065-3233.

L15 ANSWER 4 OF 4 MEDLINE
AN 70067423 MEDLINE
TI Fracionation of antibodies against staphylococcal nuclease on 'sepharose' immunoadsorbents.
AU Omenn G S; Ontjes D A; Anfinsen C B
SO NATURE, (1970 Jan 10) 225 (228) 189-90.
Journal code: 0410462. ISSN: 0028-0836.

(FILE 'HCAPLUS, MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO' ENTERED AT 11:10:00 ON 08 JUL 2002)

L16	1156	SEA ABB=ON PLU=ON	HOOK M?/AU
L17	22517	SEA ABB=ON PLU=ON	XU Y?/AU
L18	205	SEA ABB=ON PLU=ON	SPEZIALE P?/AU
L19	17	SEA ABB=ON PLU=ON	CASOLINI F?/AU
L20	315	SEA ABB=ON PLU=ON	PATTI J?/AU
L21	6214	SEA ABB=ON PLU=ON	PATEL P?/AU
L22	173	SEA ABB=ON PLU=ON	DOMANSKI P?/AU
L23	2	SEA ABB=ON PLU=ON	L16 AND L17 AND L18 AND L19 AND L20 AND L21 AND L22
L24	195	SEA ABB=ON PLU=ON	L16 AND (L17 OR L18 OR L19 OR L20 OR L21 OR L22)
L25	12	SEA ABB=ON PLU=ON	L17 AND (L18 OR L19 OR L20 OR L21 OR L22)
L26	25	SEA ABB=ON PLU=ON	L18 AND (L19 OR L20 OR L21 OR L22)
L27	2	SEA ABB=ON PLU=ON	L19 AND (L20 OR L21 OR L22)
L28	4	SEA ABB=ON PLU=ON	L20 AND (L21 OR L22)
L29	4	SEA ABB=ON PLU=ON	L21 AND L22
L30	1	SEA ABB=ON PLU=ON	VISAL L?/AU
L31	1	SEA ABB=ON PLU=ON	L30 AND (L16 OR L17 OR L18 OR L19 OR L20 OR L21 OR L22)
L32	81	SEA ABB=ON PLU=ON	(L16 OR L17 OR L18 OR L19 OR L20 OR L21 OR L22 OR L30) AND L2
L33	31	SEA ABB=ON PLU=ON	L32 AND (CROSSREACT? OR REACT? OR THERAP? OR TREAT? OR PREVENT?)
L34	38	SEA ABB=ON PLU=ON	L23 OR L25 OR LL27 OR L28 OR L29 OR L31 OR L33
L35	20	DUP REM L34 (18 DUPLICATES REMOVED)	

L35 ANSWER 1 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:332228 HCAPLUS
DOCUMENT NUMBER: 136:354192
TITLE: Monoclonal antibodies to the MAP protein for diagnosing and treating staphylococcal infections
INVENTOR(S): **Patti, Joseph M.; Domanski, Paul; Patel, Pratisksha**
PATENT ASSIGNEE(S): Inhibitex, Inc., USA
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002034788	A1	20020502	WO 2001-US32550	20011022

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2000-241832P P 20001020
US 2001-277287P P 20010321

AB Monoclonal and polyclonal antibodies to the binding subdomains of the MAP protein, including the Map10 protein, or other immunogenic subregions of the MAP protein, are provided which can be useful in the treatment of and protection against infection from staphylococcal bacteria such as Staphylococcus aureus. In addn., medical instruments can be treated using the antibodies of the invention in order to reduce or eliminate the possibility of their becoming infected or further spreading the infection. In particular, the antibodies of the present invention are advantageous because they serve the double purpose of preventing adherence of the bacteria to host cells and enhancing the killing of the bacteria in an infected host.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 2 OF 20 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 1
ACCESSION NUMBER: 2001:713175 HCAPLUS
DOCUMENT NUMBER: 135:271897
TITLE: Cross-**reactive** displacing **antibodies** from **collagen-binding** proteins and method of identification and use
INVENTOR(S): **Hook, Magnus; Xu, Yi; Speziale, Pietro**; Visai, Livia; **Casolini, Fabrizia; Patti, Joseph; Patel, Pratiksha; Domanski, Paul**
PATENT ASSIGNEE(S): Inhibitex, Inc., USA; Texas A + M University System; Universita' Degli Studi di Pavia
SOURCE: PCT Int. Appl., 107 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001070267	A1	20010927	WO 2001-US8554	20010319

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2000-189968P P 20000317
US 2000-199370P P 20000425
US 2000-225402P P 20000815

AB **Antibodies** to the **CNA** protein and to other regions from the **collagen binding** domain, including domain **CNA19**, are provided, and **antibodies** produced in this manner have been shown to be cross **reactive** to both **Staphylococcus aureus** and **Staphylococcus epidermidis** bacteria and which can thus be used in the **prevention** and **treatment** of infections caused by both of these types of bacteria. In addn., medical instruments can be **treated** using the **antibodies** of the invention in order to reduce or eliminate the possibility of their becoming infected or further spreading the infection. In particular, the proteins are advantageous because they are cross-**reactive** and may thus be administered to patients so as to reduce or **prevent** severe infection by **staphylococcal** bacteria of more than one species. **Antibodies** generated in this manner have also been shown to exhibit displacement activity and can thus be utilized advantageously in methods wherein these **antibodies** will be administered to patients having pre-existing **staphylococcal** infections because of the ability to displace bacterial proteins from binding sites on the extracellular matrix. Finally, a method of identifying, isolating and utilizing displacing **antibodies** is also provided.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 3 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2001:534391 BIOSIS
DOCUMENT NUMBER: PREV200100534391
TITLE: **Collagen binding** protein compositions and methods of use.
AUTHOR(S): **Hook, Magnus; Patti, Joseph M. (1)** ; House-Pompeo, Karen; Sthanam, Narayana; Symersky, Jindrich
CORPORATE SOURCE: (1) Missouri City, TX USA
ASSIGNEE: Texas A&M University Systems, College Station, TX, USA
PATENT INFORMATION: US 6288214 September 11, 2001
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (Sep. 11, 2001) Vol. 1250,

No. 2, pp. No Pagination. e-file.
ISSN: 0098-1133.
DOCUMENT TYPE: Patent
LANGUAGE: English

AB Disclosed are the **cna** gene and **cna**-derived nucleic acid segments from **Staphylococcus aureus** , and DNA segments encoding **cna** from related bacteria. Also disclosed are Col binding protein (CBP) compositions and methods of use. The CBP protein and antigenic epitopes derived therefrom are contemplated for use in the **treatment** of pathological infections, and in particular, for use in the **prevention** of bacterial adhesion to Col. DNA segments encoding these proteins and anti-(Col binding protein) **antibodies** will also be of use in various screening, diagnostic and **therapeutic** applications including active and passive immunization and methods for the **prevention** of bacterial colonization in an animal such as a human. These DNA segments and the peptides derived therefrom are contemplated for use in the preparation of vaccines and, also, for use as carrier proteins in vaccine formulations, and in the formulation of compositions for use in the **prevention** of **S. aureus** infection.

L35 ANSWER 4 OF 20 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 2001:979699 SCISEARCH
THE GENUINE ARTICLE: 498ZW
TITLE: Protection against experimental **Staphylococcus aureus** arthritis by vaccination with clumping factor A, a novel virulence determinant
AUTHOR: Josefsson E (Reprint); Hartford O; O'Brien L; **Patti J M**; Foster T
CORPORATE SOURCE: Gothenburg Univ, Dept Rheumatol, Guldhedsgatan 10, S-41346 Gothenburg, Sweden (Reprint); Gothenburg Univ, Dept Rheumatol, S-41346 Gothenburg, Sweden; Inhibitex, Alpharetta, GA USA; Trinity Coll Dublin, Dept Microbiol, Dublin, Ireland
COUNTRY OF AUTHOR: Sweden; USA; Ireland
SOURCE: JOURNAL OF INFECTIOUS DISEASES, (15 DEC 2001) Vol. 184, No. 12, pp. 1572-1580.
Publisher: UNIV CHICAGO PRESS, 1427 E 60TH ST, CHICAGO, IL 60637-2954 USA.
ISSN: 0022-1899.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 31

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The importance of the fibrinogen-binding adhesin clumping factor A (ClfA) in the pathogenesis of **Staphylococcus aureus** septic arthritis was examined in an animal model. The protective effect of active and passive immunization with ClfA also was investigated in **S. aureus** infection models. The severity of arthritis was markedly reduced in mice challenged intravenously with a clfA mutant, compared with mice infected with the wild-type strain. Mice immunized with recombinant ClfA and challenged with **S. aureus** developed less-severe arthritis than did mice immunized with a control antigen. Passive immunization of mice with rat and rabbit anti-ClfA

antibodies protected against **S. aureus** arthritis and sepsis-induced death, indicating that the protection by active immunization is **antibody** mediated. Taken together, these data strongly suggest that ClfA is a crucial virulence determinant for septic arthritis and an excellent target for the generation of immune **therapies** directed against **S. aureus**.

L35 ANSWER 5 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2002:176230 BIOSIS
DOCUMENT NUMBER: PREV200200176230
TITLE: Monoclonal antibodies against a Staphylococcus aureus surface protein protect against bacteremia induced mortality.
AUTHOR(S): **Patti, J. M. (1); Patel, P. (1); Domanski, P. (1)**; Prater, B. (1); Coleman, T. (1); Bryant, D. (1); Vernachio, J. (1); Robbins, J. (1)
CORPORATE SOURCE: (1) Inhibitex, Inc., Alpharetta, GA USA
SOURCE: Abstracts of the General Meeting of the American Society for Microbiology, (2001) Vol. 101, pp. 30. http://www.asmusa.org/mtgsrc/generalmeeting.htm. print.
Meeting Info.: 101st General Meeting of the American Society for Microbiology Orlando, FL, USA May 20-24, 2001
ISSN: 1060-2011.
DOCUMENT TYPE: Conference
LANGUAGE: English
AB Background: S. aureus is a feared pathogen and a common cause of nosocomial and community acquired infections. The continued emergence of antibiotic resistant strains require the development of novel therapies to prevent and treat staphylococcal infections. McGavin et al (McGavin et al, 1993, Infect. Immun. p 2479-2485) identified a 72 kDa surface protein, from S. aureus strain FDA 574, that binds a variety of host proteins including BSP, fibrinogen, fibronectin, vitronectin, and thrombospondin. The gene, designated map, was cloned and sequenced and found to contain 6 repeated units each subdomain (110 amino acids) displaying similarity to the peptide binding groove of MHC class II DRbeta molecules from mammalian species. We now report that monoclonal antibodies against MAP, a highly conserved cell surface localized protein expressed by virtually all S. aureus strains, are protective in a murine model of bacteremia. Methods: Mice (n=15/group) were treated by a single IP injection with mAbs (36 mg/kg) H07, H10 or PBS. Nineteen hours after mAb administration, the mice were challenged with an IV injection of S. aureus strains Barnett, ATCC 25923, or ATCC 49230. The mice were then followed for 6 days and the survival data of each group of mice was analyzed by the Mantel-Cox test. Results: mAbs H07 and H10 provided superior protection against all 3 strains of S. aureus compared to control. This is the first scientific report of monoclonal antibodies, against a staphylococcal protein, that can protect against a lethal infection. Conclusions: These data clearly demonstrate that a single infusion of a MAP monoclonal antibody can significantly prevent sepsis mediated death against multiple strains of S. aureus in a relevant in vivo model.

L35 ANSWER 6 OF 20 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 2

ACCESSION NUMBER: 2000:814496 HCAPLUS
DOCUMENT NUMBER: 133:366397
TITLE: **Collagen-binding** proteins from enterococcal bacteria for **prevention** of infection
INVENTOR(S): Rich, Rebecca L.; Kriekemeyer, Bernd; Owens, Richard T.; **Hook, Magnus**; Murray, Barbara E.; Nallapareddy, Sreedhar R.; Qin, Xiang; Weinstock, George M.; Singh, Kvindra V.; Duh, Ruay-wang
PATENT ASSIGNEE(S): The Texas A & M University System, USA; University of Texas Medical School
SOURCE: PCT Int. Appl., 148 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000068242	A1	20001116	WO 2000-US12590	20000510
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1177203	A1	20020206	EP 2000-935885	20000510
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: US 1999-133334P P 19990510
WO 2000-US12590 W 20000510

AB A **collagen-binding MSCRAMM** (**microbial surface** components **recognizing adhesive** matrix mols.) entitled Ace from enterococcal bacteria is provided which is homologous to the ligand-binding region of **Cna**, the **collagen-binding MSCRAMM** from **Staphylococcus aureus**, and which can be utilized in a similar manner as other **collagen -binding MSCRAMMs** to inhibit adhesion of enterococcal bacteria to extracellular matrix proteins. The N-terminal region of Ace contains a region (residues 174-319), or A domain, which appears to be equiv. to the minimal ligand-binding region of the **collagen-binding** protein **Cna** (**Cna** 151-318), and contains several 47-residue tandem repeat units, called B domain repeat units, between the **collagen-binding** site and cell wall-assocd. regions. The Ace protein of the invention can thus be utilized in methods of **preventing** and/or **treating** enterococcal infection, and in addn., **antibodies** raised against Ace, or its A domain, can be used to effectively inhibit the adhesion of enterococcal cells to a collagen substrate. The Ace protein of the present invention is thus a functional **collagen-binding MSCRAMM** and can be

utilized to **treat** or **prevent** invention in the same manner as other isolated **MSCRAMMs** have been utilized, namely in methods of **treating** or **preventing** infections and diseases caused by enterococcal bacteria.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 7 OF 20 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 3
ACCESSION NUMBER: 2000:161170 HCAPLUS
DOCUMENT NUMBER: 132:199034
TITLE: **Staphylococcal** immunotherapeutics via donor selection and donor stimulation
INVENTOR(S): **Patti, Joseph M.**; Foster, Timothy J.; **Hook, Magnus**
PATENT ASSIGNEE(S): Inhibitex, Inc., USA; The Texas A & M University System; The Provost Fellows and Scholars of the College of the Holy and Undivided Trinity of Queen Elizabeth Near Dublin
SOURCE: PCT Int. Appl., 84 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000012132	A1	20000309	WO 1999-US19729	19990831
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9956966	A1	20000321	AU 1999-56966	19990831
EP 1121149	A1	20010808	EP 1999-943981	19990831
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
NO 2001000981	A	20010426	NO 2001-981	20010227

PRIORITY APPLN. INFO.: US 1998-98449P P 19980831
WO 1999-US19729 W 19990831

AB A method and compn. for the passive immunization of patients infected with or susceptible to infection from **Staphylococcus** bacteria such as **S. aureus** and **S. epidermidis** infection are provided that include the selection or prepn. of a donor plasma pool with high **antibody** titers to carefully selected **Staphylococcus** adhesins or **MSCRAMMs**, or fragments or components thereof, or sequences with substantial homol. thereto. The donor plasma pool can be prepd. by combining individual blood or blood component samples which have higher than normal titers of **antibodies** to one or more of the selected adhesins or other proteins that bind to extracellular matrix proteins, or by administering carefully selected proteins or peptides to a host to induce the expression of

desired **antibodies**, and subsequently recovering the enhanced high titer serum or plasma pool from the **treated** host. In either case, the donor plasma pool is preferably purified and concd. prior to i.v. introduction into the patient, and the present invention is advantageous in that a patient can be immunized against a wide variety of potentially dangerous **staphylococcal** infections. Kits for identifying potential donors with high titers of the selected adhesins are also provided. The present invention thus provides methods and compns. which can be highly effective against infections assocd. with **Staphylococcus** bacteria.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 8 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:161169 HCAPLUS
DOCUMENT NUMBER: 132:212703
TITLE: Multicomponent vaccines for **prevention** of **staphylococcal** infections
INVENTOR(S): **Patti, Joseph M.**; Foster, Timothy J.; **Hook, Magnus**
PATENT ASSIGNEE(S): Inhibitex, Inc., USA; The Texas A & M University System; The Provost Fellows and Scholars of the College of the Holy and Undivided Trinity of Queen Elizabeth Near Dublin
SOURCE: PCT Int. Appl., 115 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000012131	A1	20000309	WO 1999-US19727	19990831
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9955889	A1	20000321	AU 1999-55889	19990831
EP 1109577	A1	20010627	EP 1999-942533	19990831
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
BR 9913340	A	20011106	BR 1999-13340	19990831

PRIORITY APPLN. INFO.: US 1998-98439P P 19980831
WO 1999-US19727 W 19990831

AB Multicomponent vaccines are provided which aid in the **prevention** and **treatment** of **staphylococcal** infections and which include certain selected combinations of bacterial binding proteins or fragments thereof, or **antibodies** to those proteins or fragments. By careful selection of the proteins, fragments, or **antibodies**, a

vaccine is provided that imparts protection against a broad spectrum of **Staphylococcus** bacterial strains and against proteins that are expressed at different stages of the logarithmic growth curve. In one embodiment of the invention, a compn. is provided that includes at least a **collagen-binding** protein or peptide (or an appropriate site directed mutated sequence thereof) such as **CNA**, or a protein or fragment with sufficiently high homol. thereto, in combination with a fibrinogen binding protein, preferably Clumping factor A ("ClfA") or Clumping factor B ("ClfB"), or a useful fragment thereof or a protein or fragment with sufficiently high homol. thereto. The vaccines and products of the present invention are advantageous in that they respond to the urgent need of the medical community for a substitute for small mol. antibiotics, which are rapidly losing effectiveness and provide effective combinations of the large no. of known bacterial surface adhesins which can impart effective protection against a broad spectrum of bacterial infections.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 9 OF 20 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 4

ACCESSION NUMBER: 2001:15307 HCAPLUS

DOCUMENT NUMBER: 134:177050

TITLE: Monoclonal **antibodies** to **CNA**, a **collagen-binding microbial surface** component **recognizing adhesive** matrix molecules, detach **Staphylococcus aureus** from a collagen substrate

AUTHOR(S): Visai, Livia; **Xu, Yi**; **Casolini, Fabrizia**; Rindi, Simonetta; **Hook, Magnus**; **Speziale, Pietro**

CORPORATE SOURCE: Department of Biochemistry, University of Pavia, Pavia, I-27100, Italy

SOURCE: Journal of Biological Chemistry (2000), 275(51), 39837-39845
CODEN: JBCHA3; ISSN: 0021-9258

PUBLISHER: American Society for Biochemistry and Molecular Biology

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Previous studies showed that **Staphylococcus aureus** expresses a **collagen-binding MSCRAMM** (**Microbial Surface** Component **Recognizing Adhesive** Matrix Mols.), **CNA**, that is necessary and sufficient for **S. aureus** cells to adhere to cartilage and is a virulence factor in exptl. septic arthritis. The authors have now used a monoclonal **antibody** (**mAb**) approach to further analyze the structure and function of **CNA**. 22 **MAbs** raised against the minimal ligand binding domain, **CNA**-(151-318), were shown to bind to the **MSCRAMM** with similar affinity. All **mAbs** appear to recognize conformation-dependent epitopes that were mapped throughout the **CNA**-(151-318) domain using a chimeric strategy where segments of **CNA** are grafted on ACE, a structurally related **MSCRAMM** from Enterococcus faecalis. These **mAbs** were able to inhibit 125I-**collagen**

binding to **CNA**-(151-318) as well as to intact **S. aureus** cells. They also interfered with the attachment of bacteria to collagen substrates. Furthermore, some of the **mAbs** could effectively displace 125I-collagen bound to the bacteria. These displacing **mAbs** were also able to detach bacteria that had adhered to a collagen substrate in a preincubation, raising the possibility that some of the **mAbs** may be used as **therapeutic** agents.

REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 10 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:83274 HCAPLUS
DOCUMENT NUMBER: 130:264730
TITLE: Inhibition of **Staphylococcus aureus** adherence to collagen under dynamic conditions
AUTHOR(S): Mohamed, Nehal; Teeters, Mark A.; **Patti, Joseph M.; Hook, Magnus;** Ross, Julia M.
CORPORATE SOURCE: Department of Chemical and Biochemical Engineering, University of Maryland Baltimore County, Baltimore, MD, 21250, USA
SOURCE: Infection and Immunity (1999), 67(2), 589-594 CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Staphylococcus aureus** is the most common etiol. agent of bacterial arthritis and acute osteomyelitis and has been shown to bind to type II collagen under static and dynamic conditions. We have previously reported the effect of shear on the adhesion of **S. aureus** Phillips to collagen and found that this process is shear dependent (Z. Li, M. Hook, J. M. Patti, and J. M. Ross, Ann. Biomed. Eng. 24[Suppl. 1]:S-55). In this study, we used recombinant collagen adhesin fragments as well as polyclonal **antibodies** generated against adhesin fragments in attempts to inhibit bacterial adhesion. A parallel-plate flow chamber was used in a dynamic adhesion assay, and quantification of adhesion was accomplished by phase contrast video microscopy coupled with digital image processing. We report that both recombinant fragments studied, M19 and M55, and both polyclonal **antibodies** studied, .alpha.-M17 and .alpha.-M55, inhibit adhesion to varying degrees and that these processes are shear dependent. The M55 peptide and .alpha.-M55 cause much higher levels of inhibition than M19 and .alpha.-M17, resp., at all wall shear rates studied. Our results demonstrate the importance of using a dynamic system in the assessment of inhibitory strategies and suggest the possible use of M55 and .alpha.-M55 in clin. applications to **prevent** infections caused by **S. aureus** adhesion to collagen.

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 11 OF 20 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 5
ACCESSION NUMBER: 1998:509122 HCAPLUS

DOCUMENT NUMBER: 129:148069
TITLE: **Fibronectin binding** protein compositions, **antibodies** thereto, and methods of use
INVENTOR(S): **Hook, Magnus; Patti, Joseph M.** ; House-Pompeo, Karen L.; **Speziale, Petro**; Joh, Danny; McGavin, Martin J.
PATENT ASSIGNEE(S): The Texas A & M University System, USA
SOURCE: PCT Int. Appl., 201 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9831389	A2	19980723	WO 1998-US1222	19980121
WO 9831389	A3	19990121		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9866479	A1	19980807	AU 1998-66479	19980121
AU 744723	B2	20020228		
EP 971740	A2	20000119	EP 1998-908439	19980121
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002513398	T2	20020508	JP 1998-533382	19980121

PRIORITY APPLN. INFO.: US 1997-36139P P 19970121
WO 1998-US1222 W 19980121

AB Disclosed are **antibodies** that block the binding of fibronectin protein to fibronectin. Also disclosed are site specifically-mutated and truncated peptide epitopes derived from the fnbA and fnbB genes of **Staphylococcus aureus**, the fnbA and fnbB genes of Streptococcus dysgalactiae, and the sfb gene of Streptococcus pyogenes, and nucleic acid segments encoding these peptides and epitopes. The anti-(**fibronectin binding** site) **antibodies**, peptides and epitopes that give rise to **antibodies** that block the binding of **fibronectin binding** proteins to fibronectin, and DNA segments encoding these proteins and are of use in various screening, diagnostic and **therapeutic** applications including active and passive immunization and methods for the **prevention** of streptococcal and **staphylococcal** colonization in animals or humans. These DNA segments and the peptides derived therefrom are proposed to be of use directly in the prepn. of vaccines and also for use as carrier proteins in vaccine formulations.

L35 ANSWER 12 OF 20 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 6
ACCESSION NUMBER: 1998:711555 HCAPLUS
DOCUMENT NUMBER: 130:80263

TITLE: **Antibody** response to **fibronectin-binding** adhesin **FnbpA** in patients with **Staphylococcus aureus** infections

AUTHOR(S): **Casolini, Fabrizia**; Visai, Livia; Joh, Danny; Conaldi, Pier Giulio; Toniolo, Antonio; **Hook, Magnus**; **Speziale, Pietro**

CORPORATE SOURCE: Department of Biochemistry, University of Pavia, Pavia, 27100, Italy

SOURCE: Infection and Immunity (1998), 66(11), 5433-5442
CODEN: INFIBR; ISSN: 0019-9567

PUBLISHER: American Society for Microbiology

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The authors analyzed **antibody reactivity** to a **fibronectin-binding** microbial surface component that recognizes adhesive matrix mols. (**MSCRAMM**) in blood plasma collected from patients with **staphylococcal** infections. All patients had elevated levels of anti-**MSCRAMM antibodies** compared to those of young children who, presumably, had not been exposed to **staphylococcal** infections. The anti-**MSCRAMM antibodies** preferentially **reacted** with the ligand-binding repeat domain of the adhesin. However, these **antibodies** did not inhibit **fibronectin binding**. Essentially, all patients had **antibodies** which specifically recognized the fibronectin-**MSCRAMM** complex but not the isolated components. Epitopes recognized by these anti-ligand-induced binding sites **antibodies** were found in each repeat unit of the **MSCRAMM**. Thus, **staphylococci** have bound fibronectin some time during infection and each repeat unit in the **MSCRAMM** can engage in ligand binding. Furthermore, the authors' previously proposed model, suggesting that an unordered structure in the **MSCRAMM** undergoes a conformational change upon ligand binding (K. House-Pompeo, et al., 1996), and is presumably operational in patients during infections.

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 13 OF 20 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1998:400174 HCAPLUS

DOCUMENT NUMBER: 129:147803

TITLE: Vaccination with a recombinant fragment of collagen adhesin provides protection against **Staphylococcus aureus**-mediated septic death

AUTHOR(S): Nilsson, Ing-Marie; **Patti, Joseph M.**; Bremell, Tomas; **Hook, Magnus**; Tarkowski, Andrzej

CORPORATE SOURCE: Department of Rheumatology, University of Goteborg, Goteborg, S-41346, Swed.

SOURCE: Journal of Clinical Investigation (1998), 101(12), 2640-2649
CODEN: JCINAO; ISSN: 0021-9738

PUBLISHER: Rockefeller University Press

DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Staphylococcus aureus** is a major cause of nosocomial and community-acquired infections. Morbidity and mortality due to infections such as sepsis, osteomyelitis, septic arthritis, and invasive endocarditis remain high despite the use of antibiotics. The emergence of antibiotic resistant super bugs mandates that alternative strategies for the **prevention** and **treatment** of **S. aureus** infections are developed. We investigated the ability of vaccination with a recombinant fragment of the **S. aureus** collagen adhesin to protect mice against sepsis-induced death. Actively immunized NMRI mice were i.v. inoculated with the **S. aureus** clin. isolate strain Phillips. 14 D after inoculation, mortality in the collagen adhesin-vaccinated group was only 13%, compared with 87% in the control antigen immunized group. To det. if the protective effect was **antibody** mediated, we passively immunized naive mice with collagen adhesin-specific **antibodies**. Similar to the active immunization strategy, passive transfer of collagen adhesin-specific **antibodies** protected mice against sepsis-induced death. In vitro expts. indicated that **S. aureus** opsonized with sera from collagen adhesin immunized mice promoted phagocytic uptake and enhanced intracellular killing compared with bacteria opsonized with sera from control animals. These results indicate that the collagen adhesin is a viable target in the development of immunotherapeutics against **S. aureus**.

L35 ANSWER 14 OF 20 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 7
ACCESSION NUMBER: 1997:757033 HCAPLUS
DOCUMENT NUMBER: 128:47296
TITLE: **Collagen binding** protein compositions and methods of use
INVENTOR(S): **Hook, Magnus; Patti, Joseph M.** ; House Pompeo, Karen; Sthanam, Narayana; Symersky, Jindrich
PATENT ASSIGNEE(S): Texas A & M University System, USA; Uab Research Foundation; Hook, Magnus; Patti, Joseph M.; House-Pompeo, Karen; Sthanam, Narayana; Symersky, Jindrich
SOURCE: PCT Int. Appl., 143 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9743314	A2	19971120	WO 1997-US8210	19970514
WO 9743314	A3	19971224		

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM,

GA, GN, ML, MR, NE, SN, TD, TG

AU 9731260	A1	19971205	AU 1997-31260	19970514
EP 950068	A2	19991020	EP 1997-926514	19970514
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 6288214	B1	20010911	US 1997-856253	19970514
PRIORITY APPLN. INFO.:			US 1996-17678P P	19960516
			WO 1997-US8210 W	19970514

AB Disclosed are the **cna** gene and **cna**-derived nucleic acid segments from **Staphylococcus aureus** , and DNA segments encoding **cna** from related bacteria. Also disclosed are **collagen binding** protein (CBP) compns. and methods of use. The CBP protein and antigenic epitopes derived therefrom are contemplated for use in the **treatment** of pathol. infections, and in particular, for use in the **prevention** of bacterial adhesion to collagen. DNA segments encoding these proteins and anti-CBP **antibodies** will also be of use in various screening, diagnostic and **therapeutic** applications including active and passive immunization and methods for the **prevention** of bacterial colonization in an animal such as a human. These DNA segments and the peptides derived therefrom are contemplated for use in the prepn. of vaccines and, also, for use as carrier proteins in vaccine formulations, and in the formulation of compns. for use in the **prevention** of **S. aureus** infection.

L35 ANSWER 15 OF 20 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 8

ACCESSION NUMBER:	1996:54811 HCAPLUS
DOCUMENT NUMBER:	124:138980
TITLE:	Conformational changes in the fibronectin binding MSCRAMMs are induced by ligand binding
AUTHOR(S):	House-Pompeo, Karen; **Xu, Yun**; Joh, Danny; **Speziale, Pietro**; Hook, Magnus
CORPORATE SOURCE:	Cent. Extracellular Matrix Biol., Texas A & M Univ., Houston, TX, 77030, USA
SOURCE:	J. Biol. Chem. (1996), 271(3), 1379-84 CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB Bacterial adherence to host tissue involves specific microbial surface adhesins of which a subfamily termed microbial surface components recognizing adhesive matrix mols. (MSCRAMMs) specifically recognize extracellular matrix components. The authors now report on the biophys. characterization of recombinant fibronectin binding MSCRAMMs originating from several different species of Gram-pos. bacteria. The far-UV CD spectra (190-250 nm) of recombinant forms of the ligand binding domain of the MSCRAMMs, in a phosphate-buffered saline soln. at neutral pH, were characteristic of a protein contg. little or no regular secondary structure. The intrinsic viscosity of this domain was found to the same in the presence or absence of 6 M guanidine hydrochloride, indicating that the native and denatured conformations are indistinguishable. On addn. of fibronectin NH2 terminus as ligand to the recombinant adhesin there is a large change in the resulting far-UV CD difference spectra. At a 4.9 M excess of the NH2 terminus the difference spectra shifted to what was predominately a .beta.-sheet conformation, as judged by comparison with model far-UV CD spectra. The fibronectin NH2-terminal domain undergoes a minute but

reproducible blue-shift of its intrinsic tryptophan fluorescence on addn. of rFNBD-A, which contains no tryptophan residues. Since this result indicates that there is no large change in the environment of the tryptophan residues of the NH2 terminus on binding, the large shift in secondary structure obsd. by CD anal. is attributed to induction of a predominately .beta.-sheet secondary structure in the adhesin on binding to fibronectin NH2 terminus.

L35 ANSWER 16 OF 20 MEDLINE
ACCESSION NUMBER: 96139463 MEDLINE
DOCUMENT NUMBER: 96139463 PubMed ID: 8576126
TITLE: A monoclonal **antibody** enhances ligand binding of fibronectin **MSCRAMM** (adhesin) from Streptococcus dysgalactiae.
AUTHOR: **Speziale P**; Joh D; Visai L; Bozzini S; House-Pompeo K; Lindberg M; **Hook M**
CORPORATE SOURCE: Department of Biochemistry, University of Pavia, Italy.
CONTRACT NUMBER: AI20624 (NIAID)
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (1996 Jan 19) 271 (3) 1371-8.
Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199603
ENTRY DATE: Entered STN: 19960321
Last Updated on STN: 19970203
Entered Medline: 19960311

AB A monoclonal **antibody** 3A10, generated from a mouse immunized with the Streptococcus dysgalactiae fibronectin (Fn) binding protein FnbA, was isolated, and its effect on ligand binding by the antigen was examined. The epitope for 3A10 was localized to a previously unidentified Fn binding motif (designated An) just N-terminal of the repeat domain which represents the primary ligand binding site on FnbA. Fn binding to Au was enhanced by 3A10 rather than inhibited. This effect was demonstrated in two different assays. First, in the presence of 3A10 the Au-containing proteins and synthetic peptide more effectively competed with bacterial cells for binding to Fn. Second, 3A10 dramatically increased the binding of biotin-labeled forms of the Au-containing proteins to Fn immobilized on a blotting membrane. Pure 3A10 IgG did not recognize the antigen by itself, and Fn was required for the immunological interaction between the **antibody** and the epitope. This induction effect of Fn was shown in both Western blot and enzyme-linked immunosorbent assay in which immobilized Au-containing molecules were probed with 3A10 in the presence of varying concentrations of Fn. Specificity analyses of 3A10 revealed that the monoclonal also recognized a ligand binding motif in a Streptococcus pyogenes Fn binding **MSCRAMM** but not the corresponding motifs in two related adhesins from **Staphylococcus aureus** and S. dysgalactiae. Furthermore, 3A10 stimulated Fn binding by S. pyogenes cells. These results together with subsequent biophysical studies presented in the accompanying paper (House-Pomepeo, K., Xu, Y., Joh, D., Speziale, P., and Hook, M. (1996) J. Biol. Chem. 271, 1379-1384) indicate that the ligand binding sites of Fn binding **MSCRAMMs** have little or no

secondary structure. However, on binding to Fn, they appear to undergo a structural rearrangement resulting in a defined structure rich in beta sheet and expressing a ligand-induced binding site for **antibodies** such as 3A10.

L35 ANSWER 17 OF 20 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 95:350332 SCISEARCH
THE GENUINE ARTICLE: QY736
TITLE: CRITICAL RESIDUES IN THE LIGAND-BINDING SITE OF THE **STAPHYLOCOCCUS-AUREUS** **COLLAGEN-BINDING** ADHESIN (**MSCRAMM**)
AUTHOR: **PATTI J M (Reprint)**; HOUSEPOMPEO K; BOLES J O; GARZA N; GURUSIDDAPPA S; **HOOK M**
CORPORATE SOURCE: TEXAS A&M UNIV, CTR EXTRACELLULAR MATRIX BIOL, ALBERT B ALKEK INST BIOSCI & TECHNOL, HOUSTON, TX, 77030 (Reprint)
COUNTRY OF AUTHOR: USA
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (19 MAY 1995) Vol. 270, No. 20, pp. 12005-12011.
ISSN: 0021-9258.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: ENGLISH
REFERENCE COUNT: 40
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB We have identified a discrete **collagen-binding** site within the **Staphylococcus aureus** collagen adhesin that is located in a region between amino acids Asp(209) and Tyr(233). Polyclonal **antibodies** raised against a recombinant form of the collagen adhesin inhibited the binding of collagen type II to **S. aureus**. When overlapping synthetic peptides mimicking segments of the adhesin fragment were tested for their ability to neutralize the inhibitory activity of the **antibody** only one peptide, CBD4 was found to be active. CBD4 bound directly to collagen and at high concentrations inhibited the binding of collagen to **S. aureus**, A synthetic peptide derivative of CBD4 lacking 2 carboxyl-terminal residues (Asn(232) Tyr(233)) had no inhibitory activity. The importance of these residues for **collagen binding** was confirmed by biospecific interaction analysis, Mutant adhesin proteins N-232 --> A and Y-233 --> A exhibited dramatic changes in **collagen binding** activity. The dominant dissociation rate for the binding of mutant adhesin protein N-232 --> A to immobilized collagen II decreased almost 10-fold, while the Y-233 --> A and the double mutant exhibited even more significant decreases in affinity and apparent binding ratio when compared to the wild type protein.

L35 ANSWER 18 OF 20 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 95:47084 SCISEARCH
THE GENUINE ARTICLE: QA287
TITLE: ISOLATION AND CHARACTERIZATION OF A NOVEL **COLLAGEN-BINDING** PROTEIN FROM STREPTOCOCCUS-PYOGENES STRAIN-6414
AUTHOR: VISAI L; BOZZINI S; RAUCCI G; TONIOLO A; **SPEZIALE P (Reprint)**
CORPORATE SOURCE: UNIV PAVIA, DEPT BIOCHEM, VIA BASSI 21, I-27100

PAVIA, ITALY (Reprint); UNIV PAVIA, DEPT BIOCHEM, I-27100 PAVIA, ITALY; MENARINI SUD, I-00040 POMEZIA, ITALY; UNIV PAVIA, INST MED & PUBL HLTH, I-21100 VARESE, ITALY
COUNTRY OF AUTHOR: ITALY
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (06 JAN 1995) Vol. 270, No. 1, pp. 347-353.
ISSN: 0021-9258.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: ENGLISH
REFERENCE COUNT: 31

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB In this report we have analyzed the binding of collagen to Streptococcus pyogenes strain 6414. This binding was rapid, specific, and involved a limited number of receptor molecules (11,600 copies per cell). When the proteins in a streptococcal lysate were blotted onto a nitrocellulose filter and probed with I-125-labeled collagen, a prominent **collagen-binding** protein of 57 kDa was identified as well as minor 130-150-kDa components. The major 57-kDa protein was isolated by affinity chromatography on collagen-Sepharose followed by gel filtration chromatography. The 57-kDa protein purified from S. pyogenes was used to raise a monospecific **antibody** which also **reacted** with a **collagen-binding** protein of similar molecular size isolated from Streptococcus zooepidemicus. The two **collagen-binding** proteins from streptococci have a similar amino acid composition and isoelectric points. Isolated **collagen-binding** protein was specifically recognized by I-125-collagen in a solid-phase binding assay and displayed an affinity for the ligand quite similar to that exhibited by intact bacteria (K-d = 3.1 versus 3.5 x 10(-9) M, respectively). Surface-labeled bacteria attached to microtiter wells coated with different collagen types and the 57-kDa protein blocked the adhesion to collagen substrate. We propose that the 57-kDa protein is an adhesin involved in the attachment of streptococci to host tissues.

L35 ANSWER 19 OF 20 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1988-347978 [49] WPIDS
DOC. NO. CPI: C1988-153811
TITLE: Hybrid DNA encoding **Staphylococcus aureus fibronectin binding** protein - useful for immunisation and topical application to **prevent staphylococcal** infections.
DERWENT CLASS: B04 D16
INVENTOR(S): FROMAN, G; **HOOK, M**; LINDBERG, K M; SIGNAS, L C; WADSTROM, T M; FROEMAN, G; HOEOEK, M; LINDBERG, M K; SIGNAES, L C; WADSTROEM, T M; HOEOK, M
PATENT ASSIGNEE(S): (ALFA) ALFA LAVAL AGRIC INT AB; (FROE-I) FROEMAN G; (HOEO-I) HOEOEK M; (LIND-I) LINDBERG M K; (SIGN-I) SIGNAES L C; (WADS-I) WADSTROEM T M; (ALFA) ALFA LAVAL AB; (HOEO-I) HOEOK M
COUNTRY COUNT: 21
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 294349	A	19881207	(198849)*	EN	23
R: AT BE CH DE ES FR GB GR IT LI LU NL SE					
AU 8816915	A	19881201	(198904)		
SE 8702272	A	19881202	(198905)		
NO 8802380	A	19881227	(198906)		8
DK 8802951	A	19881202	(198908)		
FI 8802562	A	19881202	(198911)		
JP 02154689	A	19900614	(199030)		
US 5320951	A	19940614	(199423)		19
EP 294349	B1	19950329	(199517)	EN	26
R: AT BE CH DE ES FR GB GR IT LI LU NL SE					
DE 3853446	G	19950504	(199523)		
NO 177570	B	19950703	(199532)		
ES 2072868	T3	19950801	(199537)		
FI 9503525	A	19950721	(199542)		
US 5571514	A	19961105	(199650)		24
IE 74949	B	19970813	(199745)		
US 5770702	A	19980623	(199832)		
FI 101542	B1	19980715	(199835)		
FI 101552	B1	19980715	(199835)		
JP 2971067	B2	19991102	(199951)		19
CA 1340906	C	20000222	(200029)	EN	

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
EP 294349	A		EP 1988-850188	19880530
NO 8802380	A		NO 1988-2380	19880531
JP 02154689	A		JP 1988-132890	19880601
US 5320951	A	Cont of	US 1988-201028	19880601
		Cont of	US 1991-746087	19910812
			US 1993-7817	19930122
EP 294349	B1		EP 1988-850188	19880530
DE 3853446	G		DE 1988-3853446	19880530
			EP 1988-850188	19880530
NO 177570	B		NO 1988-2380	19880531
ES 2072868	T3		EP 1988-850188	19880530
FI 9503525	A	Div ex	FI 1988-2562	19880531
			FI 1995-3525	19950721
US 5571514	A	Cont of	US 1988-201028	19880601
		Div ex	US 1993-7817	19930122
			US 1994-259000	19940613
IE 74949	B		IE 1988-1592	19880526
US 5770702	A	Cont of	US 1988-201028	19880601
		Div ex	US 1993-7817	19930122
		Div ex	US 1994-259000	19940613
			US 1996-729767	19961007
FI 101542	B1	Div ex	FI 1988-2562	19880531
			FI 1995-3525	19950721
FI 101552	B1		FI 1988-2562	19880531
JP 2971067	B2		JP 1988-132890	19880601
CA 1340906	C		CA 1988-568194	19880531

FILING DETAILS:

PATENT NO	KIND		PATENT NO
DE 3853446	G	Based on	EP 294349
NO 177570	B	Previous Publ.	NO 8802380
ES 2072868	T3	Based on	EP 294349
US 5571514	A	Div ex	US 5320951
US 5770702	A	Div ex	US 5320951
		Div ex	US 5571514
FI 101542	B1	Previous Publ.	FI 9503525
FI 101552	B1	Previous Publ.	FI 8802562
JP 2971067	B2	Previous Publ.	JP 02154689

PRIORITY APPLN. INFO: SE 1987-2272 19870601

AN 1988-347978 [49] WPIDS

AB EP 294349 A UPAB: 19950727

New hybrid DNA (I) includes a sequence from **Staphylococcus aureus** which encodes a protein or peptides (A) having **fibronectin binding** ability.

Also new are (1) plasmids or phages contg. an (A)-coding sequence; (2) microorganisms transformed with (I) and (3) (A) contg. at least one of the sequences: Gly-Gln-Asn-A1-Gly-Asn-Gln-Ser-Phe-Glu-Asp- Thr-Glu-A2-Asp-Lys-Pro-Lys- Tyr-Glu-A3-Gly-Gly-Asn-Ile-A4-Asp-Ile-Asp-Phe-Asp- Ser-Val-Pro-A5-Ile-His or Gly-Phe-Asn-Lys-His-Thr- Glu-Ile-Ile-Glu-Glu-Asp-Thr-Asn-Lys-Asp-Lys- Pro- Ser-Tyr-Gln-Phe-Gly-Gly-His-Asn-Ser-Val-Asp-Phe-Glu -Glu-Asp-Thr-Leu-Pro-Lys-Val (A1=Ser; A2=Glu; A3=Gln; A4=Val and A5=Gln; or A1=Lys; A2=Lys; A3=His; A4 =Ile and A5=His).

USE - (A) are useful (1) for immunisation, esp. to protect ruminants against **Staphylococcal** mastitis, pref. when administered at 0.5-5 microg/kg, using 3 doses at 1-3 week intervals, and (2) for topical application to **prevent** infection of wounds, pref. using an isotonic saline soln. of concn. 25-250 microg/mg. Both (A), when immobilised on a carrier, and (I) can also be used for diagnosing **Staphylococcal** infections.

0/9

Dwg.0/9

ABEQ US 5320951 A UPAB: 19940727

Hybrid-DNA molecule comprises a nucleotide sequence of **S. aureus** encoding a protein or polypeptide with **fibronectin-binding** activity, having the sequence given in the specification.

Also claimed are a microorganism transformed by the molecule, a plasmid or phage contg. the molecule, and a method for producing the protein.

USE - For producing peptides with **fibronectin-binding** activity.

Dwg.0/9

ABEQ EP 294349 B UPAB: 19950508

The use of a polypeptide consisting of at least one of the amino acid sequences Gly Gln Asn Ser Gly Asn Gln Ser Phe Glu Glu Asp Thr Glu Glu Asp Lys Pro Lys Tyr Glu Gln Gly Gly Asn Ile Val Asp Ile Asp Phe Asp Ser Val Pro Gln Ile His and/or Gly Gln Lys Gly Asn Gln Ser Phe Glu Glu Asp Thr Glu Lys Asp Lys Pro Lys Tyr Glu His Gly Gly Asn Ile Ile Asp Ile Asp Phe Asp Ser Val Pro His Ile His and/or Gly Phe Asn Lys His Thr Gly Ile Ile Gly Glu Asp Thr Asn Lys Asp Lys Pro Ser Tyr Gln Phe Gly Gly His Asn Ser Val Asp. Phe Glu Glu Asp Thr Leu Pro Lys Val in the manufacture of pharmaceutical compositions **preventing** adherence of Staph.aureus to fibronectin

containing tissue.
Dwg.0/9

ABEQ US 5571514 A UPAB: 19961211
A vaccine composition comprising an effective amount of a protein encoded by a hybrid DNA molecule comprising a nucleotide sequence from **Staphylococcus aureus** encoding an isolated protein having **fibronectin binding** activity, whereby said protein induces immunization by forming **antibodies** in a mammal against **Staphylococcus aureus** to provide protection for clinical symptoms to **Staphylococcus aureus** wherein the hybrid DNA molecule comprises one or more of the nucleotide sequences selected from the group consisting of nucleotides 1-114, 115-228 and 229-342 of a 342 base sequence given in th specification, and a pharmaceutical acceptable vaccine carrier therefor.
Dwg.0/9

L35 ANSWER 20 OF 20 MEDLINE DUPLICATE 9
ACCESSION NUMBER: 88029326 MEDLINE
DOCUMENT NUMBER: 88029326 PubMed ID: 2822388
TITLE: Cloning and expression of the gene for a **fibronectin-binding** protein from **Staphylococcus aureus**.
AUTHOR: Flock J I; Froman G; Jonsson K; Guss B; Signas C; Nilsson B; Raucci G; **Hook M**; Wadstrom T; Lindberg M
CORPORATE SOURCE: Department of Microbiology, University of Uppsala, Sweden.
CONTRACT NUMBER: AI 20624 (NIAID)
SOURCE: EMBO JOURNAL, (1987 Aug) 6 (8) 2351-7.
Journal code: 8208664. ISSN: 0261-4189.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198712
ENTRY DATE: Entered STN: 19900305
Last Updated on STN: 19970203
Entered Medline: 19871202

AB The gene encoding the **fibronectin-binding** protein (**FNBP**) from **Staphylococcus aureus** strain 8325-4 was isolated from a gene bank in pBR322. The original clone, containing a 6.5-kb insert, gave a functional product present in the periplasm of Escherichia coli. Analysis of polypeptides isolated after affinity chromatography on fibronectin-Sepharose followed by ion-exchange chromatography revealed two gene products, 87 and 165 kd in mol. wt. The amino acid compositions of these two polypeptides and a native **FNBP** from **S. aureus** strain Newman were very similar. **Antibodies** raised against the native **FNBP** from strain Newman precipitated the 125I-labelled 165-kd polypeptide, and unlabeled 165- and 87-kd polypeptides as well as native **FNBP** inhibited the immunoprecipitation **reactions**. The region of the **fnbp**-gene encoding the **fibronectin-binding** activity has been identified and subcloned in an expression vector based on the **staphylococcal** protein A gene. The resulting product in E. coli is an extracellular fusion protein consisting of two IgG-binding domains of protein A followed

by a **fibronectin-binding** region. The fusion protein binds to fibronectin and completely inhibits the binding of fibronectin to intact cells of **S. aureus**.

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